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# *Amateur Radio*

JOURNAL OF  
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20 Queen St., Melbourne, C.1.  
Telephone: MU 5154.

**PRINTERS:**

"RICHMOND CHRONICLE,"  
Shakespeare St., Richmond, E.1.  
Telephone: JB 2419.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

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**VK5WI:** Sundays, 1000 hours EAST, on 7195 Kc. Frequency checks are given by VK5DW by arrangements only on the 7 and 14 Mc. bands.

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**VK7WI:** Sundays, at 1000 hours EST, on 7195 Kc. and 146.5 Mc. No frequency checks are available.

# AMATEUR RADIO

Published by the Wireless Institute of Australia,  
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**EDITORIAL**

"Please convey to the Royal Family on behalf of members of Wireless Institute of Australia sincere sympathy on passing of His Majesty King George VI."

These few simple words by cablegram to the Royal Family through the office of the Australian High Commissioner in London expressed the sadness in the hearts of all when the news of His Majesty's passing on the morning of 6th February, 1952, was received in Australia.

To every loyal subject, this news came as a sudden and unexpected shock, although we were all aware of the condition of His Majesty's health which necessitated cancelling his Australian Tour.

By his devotion to his people and Empire, King George VI. set an example that bears no criticism, but will create a niche in the lineage of the British Monarchy which all the future generations of the British race will look back upon with great respect.

As citizens of the British Commonwealth of Nations we can learn a great lesson from our late King and

thereby further one of his cherished aims in life—"For all classes to learn to know and understand each other better."

The Radio Amateurs of the world—and our Empire in particular—have fine opportunities to implement this understanding.

In mourning his loss, the memory of a Monarch who gave his life in service and duty to his people will be revered by all mankind.

The principles of home life so simply adhered to by His Majesty and the high example set by his democratic leadership will surely be the foundation on which the British Nation will stand firm forever.

We honour our new sovereign—Queen Elizabeth II.—and to her pledge our loyalty as British subjects. Though she is young to shoulder the heavy tasks and responsibilities of a ruling Queen, she has, in her ten years of public life, established herself in the right of her own personality as one of the great individuals of the Royal line who will lead the youth of the Nation to great heights of purpose and achievement.

"GOD SAVE THE QUEEN."

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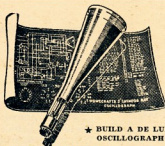
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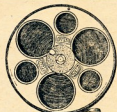
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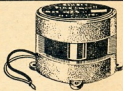
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# THE "QX"

## Combining Selectivity, Sensitivity and Simplicity in a New Type I.F. Amplifier

BY K. RUDKIN,\* A.M.I.R.E., VK2DG

Have you ever wished for a simple way of improving the gain and selectivity of your receiver without recourse to all those "back-to-back" i.f. transformers, 100 Kc. outriggers, or crystal filters? You have? Well read on brother, this is what you have been waiting for.

Browsing through some copies of "Electronics," I came across an article on a simple Q multiplier. It took but a short time to realise that here was something that could not be overlooked from a Ham point of view, promising as it did a tremendous increase in selectivity together with a gain equaling, if not exceeding, that of two conventional i.f. stages and with only one, yes **one** tuned circuit.

I will admit that at first glance it appeared fantastic that a circuit Q of 15,000 or more could be so easily obtained, but a careful perusal of the article convinced me that this was no fallacy but a very definite fact.

It is neither my desire nor intention to present a series of mathematical formulae proving that "this here" equals "that there," but to prepare this article in such a manner that it is clearly understood by all those readers whose interest is primarily practical. However, if mathematically inclined readers wish to study the derivation of the circuit, I refer them to the original "Electronics" article.

It is well known that the Q or efficiency factor of a tuned circuit is the ratio of reactance to resistance.

Now suppose that in parallel with this circuit there appears a network having a negative resistance characteristic. The negative resistance thus applied tends to reduce or even cancel out the original positive resistance. As the effective resistance therefore becomes less, the circuit  $Q$  is greatly multiplied.

Beginning with a tuned circuit already having as high a  $Q$  as practical, it is now possible to reach undreamed of values of  $Q$  by the comparatively simple method of controlled positive feedback. As an increase of  $Q$  also means a proportional increase of selectivity, the high value realised provides us with a corresponding high degree of selectivity.

A similar effect is obtained in the ordinary regenerative amplifier or detector circuit, but these, as is well known, lack a most important char-

\* View Street, Maitland, N.S.W.

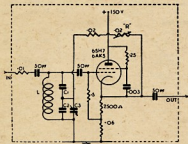
† "Simplified 'Q' Multiplier," H. E. Harris, "Electronics," May, 1951, page 130.

acteristic, that of stability, the slightest misadjustment or voltage variation causing violent oscillation. Not only this, but the variation of the feedback control invariably produces a corresponding variation in frequency.

The circuit shown in the accompanying Fig. 1 not only provides the necessary feedback to give the effective  $Q$  multiplication, but the mean frequency is independent of the feedback control and furthermore the circuit is absolutely free from oscillatory tendencies.

It will be noted that the basis of this circuit is the cathode follower which has the correct phase relation plus a high degree of stability. The cathode follower nevertheless has a gain of less than unity and so to realise an active gain, a further element must necessarily be introduced. This is taken care of by arranging the input circuit to represent an auto-transformer equivalent giving the required step-up in gain to the grid of the valve.

This now means that the circuit shown combines the following desirable characteristics: high selectivity, high gain, absolute stability and simplicity.



The first practical application was

The first practical application was made at 1550 Kc., being the first i. channel in my communications receiver. The installation however, was temporary only, to discover its possibilities, and I admit that not much care was taken in the construction of the unit, the basis of which was a 6SH7 valve and one winding from a 1500 Kc. i.f. transformer.

Results, however, were beyond expectations, but considerable annoyance was experienced due to the coil being mounted in a shielded compartment already occupied by two valves and the resulting temperature changes as these valves warmed up made necessary a continual re-tuning of the "QX" to the original 1550 Kc.

However, the vast improvement in selectivity of the receiver decided me to re-build the unit along sound lines and incorporate it with the second i.f. channel of 450 Kc., as an integral part of the receiver. Consequently, the first of two 450 Kc. i.f. stages already in the receiver was removed, together with its "back-to-back" transformers. The sec-

ond stage was left in circuit to provide the usual source of a.v.c. voltage from the plate of the last i.f. amplifier, the new circuit not lending itself to this application.

As shown in Fig. 2A, the first 450 Kc. i.f. transformer was also left in circuit mainly for convenience in coupling the mixer valve to the Q multiplier although tests proved that this transformer may also be removed, substituting an r.f. choke for the primary winding and taking the input to the "QX" from the plate of the mixer through the resistor-condenser combination as shown in Fig. 2B.

No difference in performance is noted with either method of input coupling providing that the input impedance, or I should say, the source impedance is kept as high as possible. The series resistor helps in this regard and also serves to reduce the signal input, to the benefit of the following "QX" circuit.

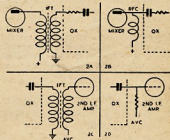


FIG. 2 ALTERNATIVE INPUT &amp; OUTPUT CIRCUITS

The preparation of the tuned circuit LC requires some explanation. The coil L is, as previously explained, one winding from an i.f. transformer. The type of transformer is not important. I have used with equal success, an R.C.S. 450 Kc. winding and a disposals type taken from a No. 11 set.

Remove the shield can and carefully disconnect the two wires leading from the top winding to the soldering lugs at the base. Then, with a hacksaw, cut through the coil former, first making sure that the iron slugs are not in the way. Either of the two windings may be used, whichever is the easiest to mount. It will be noticed that each winding has a condenser already wired in. This must be removed and replaced with its capacity noted. The usual value found in R.C.S. or Crown units is about 50 pF, whereas the No. 11 type has condensers of 115 pF.

It will be necessary to provide this total capacity across the finished coil if we are to tune to the original frequency. Referring to Fig. 1 again, it will be seen that this total C is made up by three separate condensers combining to give an approximately equal amount each side of the feedback connection. In the case of the 50 pF. total, these three are as follows: C1 100 pF., C2 75 pF. and C3 a 50 pF. variable set at half capacity. The purpose of this variable condenser will be explained later.

It will be seen that the total capacity across the coil is now back to the original 50 pF. A similar arrangement must be made with any type of i.f. winding making sure that the series combination of C equals the original value.

(Continued on Page 7)

# TELEVISION MADE EASY

## Part vii.—The Carrier Difference System

BY KEN WALL† AND JOHN JARMAN,\* VK3ADA

So a television set consists of two receivers on the one chassis, one for the picture or "vision" signals, and the other for the sound. How much cheaper it would be if a single receiver could handle both signals!

Believe it or not, such a receiver can be designed. It is the "carrier difference" receiver, whose operating principle depends upon the use of different modulation methods for the vision and sound signals.

Now we have learnt that the Australian television system will use amplitude modulation (a.m.) for the picture signal and frequency modulation (f.m.) for the sound, so that this type of receiver will be quite practicable in this country. Before we can learn how it works however, we must understand the "outlines" of frequency modulation and how it differs from the conventional system which we call amplitude modulation.

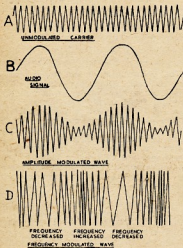


Fig. 1.

Now take a look at Fig. 1, where A represents the waves emitted by any transmitter when it is on the air, but no sound is being sent out (e.g. during an instant when nobody is speaking). This is called an unmodulated carrier. Suppose now that the announcer speaks into the microphone. Fig. 1B represents two cycles of the audio voltage which his voice will produce.

Fig. 1C shows the same waves as A after being amplitude modulated by the audio signal (B). Note that the waves are evenly spaced, but the height or amplitude varies. This method of modulation is used by all broadcast stations and by most Hams.

Now note Fig. 1D. This shows the same waves (A) but this time frequency modulated by the signal (B). The amplitude now remains fixed, but the spaces between the waves vary. In other words, the frequency changes. Frequency modulation, therefore, simply means varying the frequency instead of the amplitude, as is done in the conventional system.

Now for a little more detail. Compare C and D of Fig. 1. Note that in f.m., the crest of each sound wave is conveyed by decreasing the frequency of the radio waves and the trough of the same sound wave by increasing the frequency. The louder the sound, the greater will be these increases and decreases in carrier frequency. The number of times per second that they take place is the audio frequency, or "pitch," of the note being transmitted. Still clear as mud?

Then let us take a numerical example. Suppose a carrier of 1,000 Kc. be frequency modulated by middle C, whose pitch is 256 cycles per second. Suppose also that the note be loud enough to make the frequency change by 10 Kc. Our carrier frequency, instead of remaining steady, will now alternately rise to 1,010 Kc. and fall to 990 Kc., repeating the process 256 times per second.

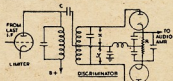


Fig. 2.

Best we now introduce two common technical terms. The amount by which our frequency increases or decreases in each half cycle is called the "deviation" (in this case 10 Kc.), and the total change in frequency in each cycle is called the "swing" (in this case 20 Kc.).

Suppose now that the same note be played softly, so that the deviation is only 5 Kc. Our carrier frequency will now swing between 995 and 1,005 Kc., 256 times per second.

We see therefore, that the louder the sound, the greater will be the deviation, and it is interesting to note that we cannot over-modulate the carrier, as in a.m.

Increasing the deviation, however, produces extra sidebands, thereby increasing the band-width of the signal, so deviation must be restricted, and the Australian Broadcasting Control Board has limited the maximum deviation to 25 Kc. In other words, transmitters must be adjusted so that the loudest sound will not cause the frequency to increase, or decrease, by more than 25 Kc.

An f.m. receiver is a superheterodyne type, differing from the a.m. set mainly in that the detector is replaced by a device whose output is proportional to changes in frequency, instead of changes in amplitude. Two of these devices are shown in Figs. 2 and 3, and we will outline their operation very briefly.

Each uses a modified i.f. transformer in whose secondary winding, two alternating voltages are produced. One of these is induced electromagnetically in the normal way, and the other is fed to the centre tap, in this case through a capacitor C.

Both windings are tuned to the centre value of the i.f. and, if we review our theory of the tuned circuit, we will find that the phase of the magnetically induced voltage must change as the i.f. swings between its highest and lowest values.

Remember, at resonant frequency, a tuned circuit (such as the secondary winding, in Figs. 2 and 3) is purely resistive, but when the frequency changes it becomes either a capacitive or an inductive reactor, depending whether the frequency varies above or below resonance. Our magnetically induced voltage will therefore "lag" or "lead" the centre tap voltage, and by combining with the latter, it produces a surprising effect.

Consider the voltages x and y (Figs. 2 and 3) across the two halves of the secondary. At resonant frequency, they are equal and opposite. When the i.f. increases above resonance, however, y becomes greater than x so that the output voltage (across R) decreases, producing a "trough" of audio voltage. When the i.f. decreases below resonance, x becomes greater than y so that the output voltage across R increases, producing a "crest" of audio voltage.

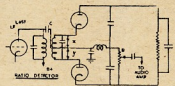


Fig. 3.

The device therefore turns frequency changes into audio voltage, which is just what we require. There is an important difference, however, between Figs. 2 and 3.

In the discriminator (Fig. 2), the output is proportional to the difference between x and y, whereas in the ratio detector (Fig. 3), it is proportional to their ratio. This means that the discriminator will respond to either f.m. or a.m. signals, whereas the ratio detector responds to f.m. only. For this reason, the discriminator, when used, must be preceded by at least one limiter. This is simply an amplifier, operated in over-loaded condition so that it "flattens out" any changes in signal amplitude, thereby making the receiver immune to a.m.

It is by "turning the deaf ear" to a.m. that the f.m. receiver achieves its main advantages over the conventional set.

†172 Johnson Street, Maffra, Victoria.  
\*A11426 L.A.C. Jarman, J. B., c/o A.R.D.U., R.A.A.F., Woomera S., South Australia.

the most important being elimination of interference. All known forms of interference, including valve hiss and static, cause only amplitude modulation, so that if our receiver responds **only** to f.m., we will have noise-free reception.

Now, readers who have experimented with f.m. will have their own opinions about this, but we shall not argue, since we are concerned with an entirely different aspect of f.m.

We have "harped" on this subject for a long time, but readers not already familiar with f.m. will agree that it has been quite relevant. The main point we have been trying to drive home is that an a.m. detector (if broadly tuned) will not respond to f.m. signals, and likewise, an f.m. "demodulator" (Fig. 2 or 3) will not respond to a.m., and if this is clear, we are now ready to deal with the carrier-difference receiver.

Consider two signals, on adjacent frequencies; one a.m., the other f.m. By means of a broadly tuned receiver, the two signals can be picked up and handled by all pre-detection stages, without interfering with each other, and separated after detection. This is the operating principle of our carrier-difference receiver, illustrated in Fig. 4, in which the a.m. signal carries the picture detail, and the f.m. signal, on a frequency 6 Mc. higher, carries the sound.

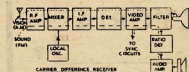


Fig. 4.

Yes, we have combined two receivers into one, to produce a cheaper television set, but why call it a "carrier-difference" receiver? Here's the secret. Whenever two signals, of different frequency, are mixed in a detector a new frequency equal to their difference is produced. We are already familiar with one example of this, in the mixer, or converter stage of a superheterodyne receiver. In our c.d. receiver the same action takes place in the detector, between the sound and vision i.f. signals, whose difference will be 6 Mc.

The detector's output, therefore, contains, in addition to the normal detected video signal, a new 6 Mc. signal. Since this is frequency modulated, its value will actually swing between 5.975 and 6.025 Mc. By means of a filter, we can separate this from the video signal (which goes to the cathode ray tube), and by a suitable demodulator (in this case, a ratio detector) we can produce our audio voltage as already explained and convert it into sound by the normal methods.

We see therefore that our audio signal is obtained from the **difference** between the two r.f. carriers; hence the name "carrier difference" or "inter-carrier modulation" system, and it should be noted that even after detection, the sound and picture signals can be amplified together, without interfering.

The advantage of this system? Mainly the prevention of fading of sound when the local oscillator drifts. The difference between the two carriers is fixed at the transmitter, so that no matter how much our local oscillator frequency varies, the 6 Mc. signal applied to our filter and sound circuit will remain unchanged.

But why not build a stable local oscillator? We do, or at least as stable as present-day techniques permit, but remember we are handling carrier frequencies between 180 and 204 Mc., so that our l.o. must operate at such a high frequency that even the smallest practicable percentage of drift must appreciably change the i.f.

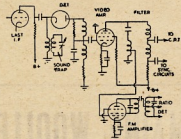


Fig. 5.

Now in the conventional television set we have separate i.f. channels for vision and sound and although each channel is tuned as broadly as practicable, the band-pass of each is limited by the danger of the two i.f.s. signals interfering with each other, so that a very little change in either i.f. can weaken the output appreciably.

The advantages of the c.d. receiver, where both i.f.s. can be handled by the same circuit without interfering, should now be quite apparent. The common i.f. circuit can be tuned broadly enough to accommodate the anticipated drifts in frequency, thereby preventing fading of the picture, and we have already seen how fading of the sound is prevented.

Did somebody mention a crystal-controlled local oscillator? Yes, this would work, but it is hardly a commercial practicability, since it would necessitate frequency-multiplying stages, thereby increasing the cost of the receiver.

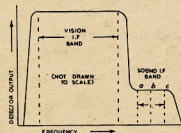


Fig. 6.

A typical circuit arrangement is shown in Fig. 5, which should be studied in conjunction with Fig. 6, which represents the detector output (not the i.f. band-pass, remember).

As an extra precaution against the sound signal interfering with the picture, a sound trap is provided which weakens the **sound i.f.** before detection, as shown by the "shelf" a-b-c in Fig. 6. This is compensated by passing the 6 Mc. signal, after extraction by the filter, through the f.m. amplifier, which is operated in such condition as to have a slight limiting action since, although a ratio detector does not respond to amplitude modulation, experience has proved that it gives better results when preceded by a limiter.

Note also that if the circuit is adjusted so that the shelf a-b-c in Fig. 6 is perfectly flat, the swinging of the frequency of the sound i.f. (i.e. its frequency modulation) will not cause any change in the detector's output. In other words, our detector is tuned to respond only to amplitude modulation so that the f.m. sound signal cannot interfere with the picture.

To end this "chin-way," we will mention a rather interesting draw-back of the c.d. system. We have already learnt that with negative modulation, the brighter the picture element, the smaller will be the carrier amplitude. Now suppose a scene contained an object so bright that it reduced the carrier amplitude to zero, in other words, cut the carrier (Fig. 7).

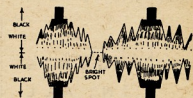


Fig. 7.

Since our sound filter is tuned to the **difference** between the two carriers, our sound signal is dependent upon the vision carrier, so that cutting the latter must also cut off the sound. Therefore, each time the bright spot is scanned, there will be a short pause of silence, so that our sound will be interrupted at field frequency (50 cycles per second), so that a 50 cycle hum would accompany the sound from the speaker.

The Australian Broadcasting Control Board, however, has taken care of this possibility by limiting the **minimum** carrier amplitude to 10% of its maximum value, so that transmitters must be adjusted to ensure that the brightest objects televised will not reduce the carrier amplitude below this value.

Having now covered the principles of television, we should be prepared to deal with the subject of interference which, of course, is the Ham's chief concern. This will be the subject of our next instalment.



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## THE "QX"

(Continued from Page 3)

No restrictions are placed on the actual construction of the unit, but it will be found necessary to shield the coil L if it is in close proximity to other 450 Kc. tuned circuits, otherwise interaction is bound to occur. In my own case the new unit is well removed from other i.f. circuits, the input and output being taken through co-ax leads. This was done to allow the unit to be mounted at the front of the receiver for ease in manipulation of the control knobs on C3 and the feedback potentiometer. However, the mechanical arrangements may well be left to the individual constructor.

Now for the purpose of the variable condenser C3. For purely phone work, this condenser could quite well be eliminated, its place being taken by a fixed capacity of suitable value.

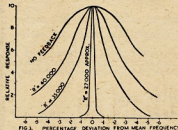


FIG. 1. PERCENTAGE DEVIATION FROM MEAN FREQUENCY

In c.w. reception however, the situation is altered. Normally in receiving c.w. signals, three methods are commonly used, being (a) tuning the receiver to zero beat with the required station and then varying the b.f.o. tuning until the required beat note is heard; (b) Setting the b.f.o. frequency to a value of from 500 to 1,000 cycles higher or lower than the mean i.f. frequency, thereby providing a strong beat note on one side only of the zero setting, the so-called "single signal" method; and (c) Setting the b.f.o. at exactly the i.f. frequency and receiving a beat note of equal strength on each side of zero.

Each of these methods has its drawbacks. In (a) the tedious necessity of jiggling the b.f.o. tuning for each station required; (b) being limited to a beat note on one side of zero only, leaves

no alternative when an interfering signal appears. Personally, I prefer method (c), but the undesirable feature of this method is that the signal, or beat note is received on the side, or skirt of the i.f. selectivity curve, definitely not the receiver's most sensitive position.

Now with the "QX" circuit, the variable C3 permits the variation of the mean i.f. frequency to plus or minus 1 Kc. or more. The procedure is this. Tune in the signal in the usual manner choosing the side of zero beat where QRM is at a minimum as is the usual custom. If the QRM is light and the required signal strong enough it is unnecessary to make any further adjustments, but if the required signal is weak or the QRM solid, as is often the case on our crowded bands, then C3 is moved slightly, peaking the i.f. channel on exactly the frequency produced by the required station. Presto! The wanted signal immediately stands out like a shag on a rock while the interfering station is relegated to the background where it belongs.

For phone reception, the C3 control is left in the centre or mean position. It will be found though, that with the feedback control set at the critical value for maximum feedback, a value of from 25,000 to 30,000 ohms, the selectivity is so high that phone stations appear to be well undermodulated and with a preponderance of bass due to the severe cutting or attenuation of the high frequency sidebands. This cannot be avoided

in any highly selective circuit and it may be necessary to "back off" the feedback control somewhat if audio fidelity is required. This is left to the operator and it is an easy matter to turn a knob, the only operation necessary to change from sharp to broad tuning.

Fig. 3 shows comparative selectivity curves obtained for various settings of the feedback control R. These must not be taken as extremely accurate because of the lack of laboratory instruments, but merely serve to give a good indication of the results which may be obtained with the unit described.

Although the "QX" has been used with equal success at 1550 Kc. and 450 Kc., these frequencies are by no means the only ones on which it may be used, and there is every reason to believe that it could operate successfully at frequencies ranging from the low i.f.s. of 50 Kc. or 100 Kc., right through to the high frequencies if care is taken to avoid phase shift. I intend, at some time in the near future to conduct experiments with it in the range 10 to 30 Mc., where conventional h.f. amplifiers are notoriously lacking in selectivity.

The "QX" should be a distinct advantage to those Amateurs using simple superhet receivers, giving as it does a selectivity comparable to that of a much more elaborate receiver using a crystal filter, with much greater ease of control.

I would be glad to hear from any of you who try this circuit, particularly if experimenting in the h.f. ranges.

## A Simple 12 Watt 144 Mc. Transmitter

BY A. H. MORRISBY, VK7MY

The transmitter described will be used later to drive an 832, which in turn will drive a pair of VT90s (micro-pups).

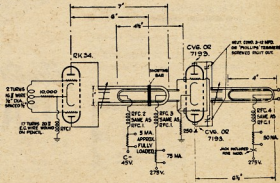
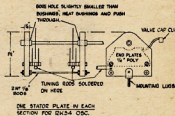
The general construction and layout of the 144 Mc. transmitter circuit is as follows: The chassis size is 22 inches by 7 inches by 4 inches deep, with the RK34 valve recessed through the chassis so that the plate caps are the same height as the CV6 caps. The grid coil is mounted under the chassis on a polystyrene strip. All pillars and insulation throughout are of polystyrene.

The split stator tuning condensers are made up from standard midgets, by replacing the ends with larger pieces of polystyrene and mounting to the stator plates double spaced at each end, making them part of the plate tank rod as shown in the diagram.

All tuning rods are made of  $\frac{1}{8}$ " copper tubing and coupling can be adjusted by bending the grid rods and antenna rod respectively.

The oscillator stage must be constructed so that all parts and wiring are firm and cannot be jarred out of adjustment.

The remaining details of the transmitter are self explanatory if the diagrams are studied, and the tuning and setting up of the transmitter follow conventional lines.



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# Antenna System for General Amateur Use

The following is a description of an antenna system devised by the writer in an attempt to fulfill the following requirements:—

- To be suitable for at least three of the harmonically related Amateur bands.
- To be self-resonant only on the band in use so as to minimise the radiation of harmonics.
- To be fed with a flat line (a small s.w.r. was of no objection).
- The system to be balanced in order to keep the feeder currents equal so as to prevent losses in and radiation from the feeders.
- To be as simple and easy to construct as possible.

It will be realised that to satisfy all the above requirements at the same time is almost impossible. However the final arrangement arrived at, which has been erected and tested and which does go a long way towards the ideal, is as follows:—

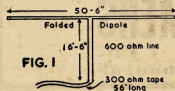


Fig. 1 shows the dimensions and construction of the antenna. Due to there being a difference of potential between the two antenna wires on 14 Mc., it is advisable to separate these two wires with small separators about 2" long. The antenna and matching section can be made of ordinary 14 gauge antenna wire. The feed line should consist of 300 ohm tape. The bottom end of the matching section should be held in position by means of a stay wire secured to a short pole or some other fixed object in order not to place any strain on the 300 ohm tape feed line.

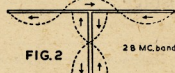


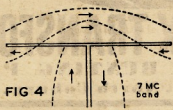
Fig. 2 shows the current distribution when used on 28 Mc. The system is a one and a half wave lengths folded dipole with a half wave length linear transformer between the centre of the antenna and the feed line. The radiation pattern consists of four major lobes fairly evenly distributed with minimums off the ends and centre of the antenna. The feed point impedance is approximately 350 ohms.

Fig. 3 shows the current distribution when used on 14 Mc. The system is a three-quarter wave length folded dipole with a quarter wave length matching



section between the antenna and the feed line. The radiation pattern is similar to that of an extended double Zepp and is in the form of a narrow figure 8 at right angles to the antenna. The feed point impedance is approximately 150 ohms.

Fig. 4 shows the current distribution when used on 7 Mc. The system is a half wave length folded dipole with the currents in the bottom one-eighth section out of phase. The radiation pattern is similar to an ordinary half wave dipole. The feed point impedance is approximately 200 ohms.



When used on 3.5 Mc. feeder ends are tied together at the transmitter and the whole system is used as a "T" top Marconi antenna against ground. The feeders should be well insulated throughout their length, which should be such that a current loop or maximum is obtained at the transmitter. The earth wire should be as short and direct as possible and should not be the normal earth wire used for earthing the other equipment in the shack.

If the dimensions are doubled the antenna can be used on 3.5 Mc., 7 Mc., and 14 Mc. as a self-resonant antenna.

The feed point impedances quoted were arrived at experimentally and are therefore very approximate. Due to the slight mismatch between the antenna and the feed line there are standing waves on the feed line but they are not serious.

No difficulty will be experienced in loading the antenna if the feed line is made of multiple or half wave lengths long (56 feet is the shortest length for 7 Mc.). However any length of feed line can be used if provision is made to tune out the reactive component at the transmitter. In most cases a 150 pF. receiving type variable condenser connected either in parallel or series with the link will be sufficient.

The writer trusts that this antenna will prove of interest and use to other Amateurs and that those who are experimentally inclined will try it out and perhaps suggest some improvements.—ZSIDH. (Reprint from "Radio ZS," May, 1951.)

## "ZONE 29 AWARD" ANNOUNCED

A new award for working VK6 stations has been announced by the Western Australian Division of the Institute. The "Zone 29 Award" came into force at 0001 hours W.A. time, 1st January, 1952, and rules are given below.

This new certificate should stimulate interest in working VK6 stations on the various bands and it is hoped that the VK6 Council will be kept busy endorsing and sending out these awards!

### RULES

1. The "Zone 29 Award" is issued by the Western Australian Division of the Wireless Institute of Australia to licensed Amateurs throughout the world who satisfy the following requirements:

(a) Establishment of two-way communication with any 25 different Amateur Stations situated in Zone 29. Communication to be after 0001 W.A. time, 1st January, 1952.

(b) The total of 25 different stations may be obtained by operation on one or more of the Amateur bands.

(c) Any types of emission which are permitted by the local licensing authority may be used.

2. The certificate will be endorsed when issued as confirmation of fulfilment of the following special conditions:

(a) All 25 stations obtained from operation on one band only.

(b) All 25 stations obtained from operation of phone transmission.

(c) All 25 stations obtained by one-band operation and phone only.

3. Confirmation, in writing, of all contacts must be submitted to the Western Australian Division of the Wireless Institute of Australia, Box N1002, G.P.O., Perth, with sufficient postage to cover cost of return of cards to owner.

### EMERGENCY!

Where Amateurs are conducting emergency communications, the following emergency signals will be used and adopted as a standard in VK-:

For phone, the words "EMERGENCY TRAFFIC."

For c.w., the letters "QRR".

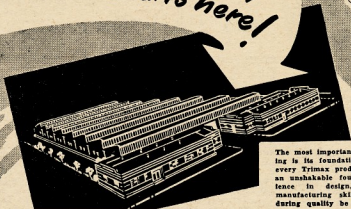
WIRELESS LIFE AND PROPERTY IS ENDANGERED AND NO NORMAL MEANS OF COMMUNICATION IS AVAILABLE. AMATEURS ARE PERMITTED TO CONDUCT TRAFFIC USING THE ABOVE SIGNALS WITHOUT PRIOR CONSENT OF DEPARTMENT.

## A.O.C.P. CLASS

A few vacancies exist in the present class for students desirous of obtaining the A.O.C.P. Persons so interested should communicate with the Secretary, W.I.A. Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 10 a.m. to 4 p.m.), or the Class Manager on Monday and Thursday evenings between 8 and 10 p.m.



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# VK4 amateurs Hold Convention

## Somerset Dam on 26th, 27th and 28th January

There is little need to tell of the antecedents of the first "VK4 Ham Do." 4GG and 4PD as soloists, with 4FP and 4WD as chorus, saturated the ether in a grand public relations campaign. They should feel pleased with the success of their efforts!

Those attending were VKs 2LR, 2AHH, 4GG, 4PD, 4HZ, 4LM, 4HR, 4JC, 4OR, 4SG, 4HA, 4CZ, 4PN, 4AF, 4VJ, 4AP, 4WB, 4JF, 4OA—in all 40 visitors of whom 19 were licensed amateurs.

In fine (too fine) hot weather, the Saturday at the Australian Day week-end found George, the Iron Horse, Tom of Puppy Dog fame, Les 4LM, Lenny 2LR, bringing Geoff, his son, and Noel 2AHH, early on the job and from then on the two main organisers never let up, looking after visitors' comfort, organising contests, keeping everybody happy and really excellent themselves as hosts to all.

The location was ideal! Eighty miles west of Brisbane, situated in the gorges of the Stanley River, the little township surrounding the huge concrete Somerset Dam itself nestles in the folds of the hills, the river averaging 1,500 feet high, almost straight up. The Departmental authorities were magnificent in co-operation!

Clean, comfortable barracks with separate rooms, equipped with a.c. power, light cooking, bathing and lavatory facilities, and equipped with stretchers, were made available for 5/6 per head for the whole week-end. The scenery is uniquely beautiful, the river bathing super during the heat of the day, and the Assistant Resident Engineer, Mr. McDonald, even turned on a personally conducted tour, over, round, and through the great Dam which was a highlight of interest to all.

A promise to explore radio communication between Somerset Dam and Brisbane was welcomed by Hams and early on Saturday morning the first contact was made with the first contact at 11.30 a.m. with 4PN in Brisbane who reported Q5 58.9. A whacking big three-ton truck and a big 4WD bus, both with 4WD diesel generating set in the back, they all burst into tears and wanted to know how they got to the dam. The bus was delivering the unit to a customer, thus getting the truck for transport of their own gear, and they all appeared at the dam, and when they returned to the Dam, and the air became hideous with QRM, b.c.i. and networks of harmonics—at least that everybody not operating told everybody who was!

4LM made most contacts and squating on his heels on one end of a verandah like a Chinaman, he belted away hour after hour, was QSOing a 2L at one stage, and ran up 50 contacts. 43R arrived with a set-up of a Command X on 40 with Rx complete, mounted in an original rack, which has never failed to perform. It promptly developed feedback, an hour later he was in bits with an advisory committee of about ten lay saying something different, and then Leigh 4R, put up a 400-watt tube, and played with his hat, in which he had carefully placed the 1625 final for safety, and the tube crashed on to the verandah, and is still in bits. Some folk looked at the huge cement Dam wall, and says cement tubes for him in future. Later he found the trouble, borrowed a 1625, and helped the hullabaloo.

Sunday saw many one-day arrivals, and the W.I.A. President, 4VJ, won the frequency guessing competition. Old-time Harry 4HA, supported by some old time yarus with the Iron Horse 4GG and 4PN and when 4OR and 4AF landed from the Darling Downs with Kels movie camera, Tom 4PD became photographic adviser for the day. We're all still wondering why Tom was born so beautiful!

The middle of each day was—as one visitor put it—"ellish 'ol, and the cool river was immensely popular, with many lounging in the shady spots and rag chewing direct—all except 4LM. They must feed him on wound up clock springs, ants' eggs and vitality pills. He just never let up, whether the T Mc. band was open or not!

Jimmy 4HZ made Sunday memorable by transmitting on 80 mx and getting lovely reports on his transmission—all from 40 mx. He says he still doesn't believe it, and told 4JF, Jack Fisher, who was there to accept any cards containing such inaccurate reports. As soon as Associate Fred Cox showed up with his AR7, 4LM cleared it to his end of the verandah and that was that! Talking ways, that boy!

At all schedule times, Brisbane reception was checked by 4UL and 4AW, who helped a great deal. After lunch on Sunday morning, Iron Horse advised that a little get together was arranged in the Picture Theatre to distribute the prizes—up to compare things. When the gang went up to the hall, the whole of the local population in best bib and tucker were there waiting for the concert to be provided by the city skiers! Was there corruption? However, the boys hopped into the breach and a sing-song and a quiz for prizes resulted in a good time being had by all; Mrs. 4PN acted as pianist. At the end, the whole audience joined hands with the Hams, and sang Auld Lang Syne with gusto.

Competition winners were: Frequency Guessing Competition: 4VJ nearest, 4AP second; Stanley River Scramble: 4LM and 4HZ dead heated on adjusted handicap; Men's Quizzes Competition: 4GG, Cadet's Quizzes Contest: Mr. Ear Basher's Award: 4LM; Visitor from Furthest

## Prizes under Hunter Branch's Xmas Party

This happy social function was held on 15th December, 1951, at the Henderson Park Memorial hall, and was a most successful and enjoyable success, due to the splendid attendance and the efforts of the committee in arranging for the various amusements and prizes. The attendance was 130 adults and 59 children.

Guests of Honour were Dr. F. Adcock (of Adcock Direction Finder fame) and an Honorary Life Member of W.I.A., and a large number of the Newcastle District. Mr. F. Hinks, Aest. R.I. Newcastle District. An apology was received from Mr. Alan Fairhall, M.H.R. for his non-attendance due to parliamentary duties.

Members of Council present were: Mr. J. Moyle, 2U (President, N.S.W. Div. W.I.A.); Mr. V. Wilson, 2VW; Mr. F. Phillips; Mr. L. Woolnough, 2GW; Mr. D. Evans, 2AYE. Visitors were Mr. T. Davies, 2FB, Heather his wife, and child; Mr. Bill Engling, 2AEY, wife and children; Mr. E. Morstella, 2AEZ, and wife; Mr. E. Fisher, 2DY, and wife.

The proceedings commenced at 7 p.m. and the opened doors revealed a gaily decorated hall draped with streamers, festoon lighting, balloons, etc., whilst in the centre of the hall stood a huge tree, festooned with presents. As each person or party arrived, the Hunter Branch Secretary, Varley 2SF, announced their names, and a sign was placed on the tree, and this gave everyone present an opportunity of knowing "who was who."

As the evening proceeded, there was all sorts of singing, dancing, and a presentation of musical chairs, community singing and ventriloquism and, everybody entered into the spirit of the party.

The highlight of the evening was the entry of Santa Claus, played by Johnnie 2DZ, who, attired in traditional garb, cut a pleasing and amusing figure. At an appropriate time Jimmy 2GC arranged for a very dramatic scene, the effects of a violent storm and skillfully dimmed the lights and then blacked out the hall, and the dancing commenced. Santa Claus, with a sack on his back and bells on his clothes, sneaked in and when Jimmy Cowan brought on the lights, the Santa Claus figure was seen there with Santa Claus in front of the Xmas tree, waving greetings to all present—the kiddies howl with delight!

Santa Claus and trophy masters (Jimmy 2ZC and Harold 2AHA) then proceeded to line up the kiddies and give them a present of a Xmas tree, a bag of lollies and a piece of fruit. The ladies were then presented, each with a Xmas tree, a bag of lollies and a piece of fruit and some of them (oh boy!) even wanted to kiss Santa Claus. Next the Hams and gentle-

Point: 2AHH; Most Distant Portable Contact: 4LM; Sudan Scramble: Divided between 4SG, 4LM, 4HR, 4DZ, 4JC.

The committee are grateful for the donation of prizes by 4YA, Stanley River Scramble Award; 2IC, The Ear Basher's Award; 2QV, Fred Cox's Award; 2QV, the picture of the Visitor Award; 4PN, Frequency Guessing Competition.

A special thanks goes to 2XO for his pioneering of "get-togethers," and his help and inspiration to all who take part.

The Ladies' Fishing Competition having produced no edible fish, they ran off a Quits Competition on Australia Day and Mrs. Cox, who was in Melbourne at that time, was delighted with her prize. 2QV's picture of the Quads, Les 4LM and 4AP went after fish on Sunday after dark, and came struggling back with five big fish, including the Old Sam of Somerset Dam, 4 ft. 6 in. long, the five weighing close on 40 lbs. They looked awfully—but did they taste good!

The radio tests showed 40 mx as patchy as expected, 80 mx giving more promise, but it is now intended to go back soon with 6 mx gear and transmit from the Scouts Hut, up on a 1,700 foot ridge above the Dam and it seems that this will prove the answer to direct radio contact between the dam and the city. If 14 Mc. gear is available this will also be tried out.

At break up on Monday afternoon, a unanimous vote of a splendid effort well organised and efficiently carried out was given by all who took part, and many kind references to the Stanley River Scramble and to the Assistant Engineer, Mr. de V. Glipps, were heard.

Queensland Ham Radio owes a tremendous debt to 4GG and 4PD for their highly successful pioneering effort, worthy of all their hard work. We want more!

men present were regimented into line, headed by the Guests of Honour, and they were presented to Santa Claus. The tree was plucked from the Xmas tree by the trophy masters. Our esteemed Senior R.I., Pat Lobinger, presented the tree to the committee, and he opened his gift in front of Santa Claus, and his gift proved to be a marvelous piece of electronic equipment. Santa Claus, after opening the parcel, Pat revealed a box which contained the lid, set into motion the bell of an alarm clock which had received a face-lift (per courtesy of Mr. Errol 2YD) and was a Christmas present, which was actually an old alarm clock, had inscribed across the new face the words "W.I.A. Christmas Wots a Wonderful Wot." "Correct Wots," and last, but not least, "Calliform Xmas Wots," this latter referring to the Sydney boys course, as we in Newcastle are quite pure.

Our old friend, Ken 2KG, provided an excellent movie projection show, the subject being "The Legend of the Dorrie Mountains" and this was followed by a colour strip of the Dorrie Mountains. These films were kindly loaned for the occasion by the maker, our old friend, Norman Moodie, associate of Coonamble.

The buffet supper which followed was excellent and the tables were colourful and beautifully arranged by the XYLs of the committee who were responsible for the making of the excellent refreshments, sandwiches, etc. During the entire evening there was an abundance of refreshments, candles for the kiddies, and two large waters for the adults and of course soft drinks! Two raffles were drawn during the evening and were won by the following: The Ken Cowan Memorial Cup was won by V. Wilson, 2VW; the 12 bottles prize was won by Dave Evans, 2AYE.

At supper time, Lionel 2CS, President of the Hunter Branch W.I.A. officially welcomed the visitors and paid tribute to the excellent work of the committee and their ladies, without whom it would not have been possible to have made the evening a success.

The Secretary of the Hunter Branch, Varley 2SF wishes to express his sincere appreciation of the whole-hearted co-operation of the committee and ladies. W.I.A. President, 2ZC, Mr. H. Whyte, 2AHA; Mr. I. Shearman, 2IS; and Mr. J. Clarke, 2DZ, who worked hard in the preparation of the meeting and the success of the evening. He also thanks all the ladies who worked so untiringly in their assistance to the committee in such a practical and efficient manner. The party for 3/- per head could not possibly have achieved such successful heights.

# DX NOTES BY VK4CJ\*

It's a long time since I have heard 14 Mc. so poor as the month of January produced. Anytime I listened to the band, it was always the same story almost day after day—a dead band. Even the odd Ws, who were coming the long way round in the mornings, had disappeared towards the end of the month. Europeans, well one or two round 9 p.m., was the best I could do. Looking at my listing, it's the smallest ever for this band. Even Interstate contacts have been out, that is, for good solid signals. Other parts of VK seem to have fared somewhat better, but not up to expectations.

The bright spot here has been 7 Mc., especially when the cyclone was raging. As the cyclone was at its peak, this band was very good in the mornings, but when the cyclone eased down, so did the DX on 7 Mc. Evenings contacts have been out, that is, for good solid signals. Other parts of VK seem to have fared somewhat better, but not up to expectations.

Static has been troublesome at times as far down as 14 Mc. and seemed to be general on 7 Mc. with all DX worked. ZD4AB told a ZS he could hear practically nothing through it, which was unfortunate from my point of view. The catch of the month for me was YU8J in the Nicobar Islands. He was VS1ED, and as my QSL was posted in Singapore, he has now

apparently left VUS again. One very disturbing note on 7 Mc. is the appearance of Radio Pakistan on 7010 Kc. with a very hefty signal.

The band survey, with times in GMT, Z time, and stations worked as:—

3.5 Mc.: Have no reports from anybody on this band. TRK has been inactive for most of the month, so has nothing to report. Management to get across to W myself a couple of times, heard a few others and KH6, but static was the problem most of the time and it was hard to read anything. ZLS varied in strength from night to night.

7 Mc.: Other than my own activities, there is little to tell of for this band. Evenings were of little value, and at all times the band was erratic, but as mentioned this band paid off up here. My listings are VUSAB\*, VQSCW\*, 854AK\*, KP4DV at 2100, AP4UAK\*, FASBO\*, CR5AE\*, SUIWP, CN8FO\*, SUIGO\*, MP4BAM, 4UAK\*, CR5AF, ZD4AB, ISIAHK, in addition to numerous South Africans, Europeans and a few VS. SJE has been doing much on the band and worked nothing outstanding, but with his XYL away, he intends to try the band a bit harder. 9XK was heard having a FBURB with CR5AE one morning, but Russ does not seem to have heard the same DX as I managed, yet SJE was working Europeans, that could not hear when the band went off here.

14 Mc.: 2ACX, who will be QRT for some time due to change of QTH to Grafton, nabbed FL4BC, MP4KAE and FTYTB, bringing his total to 220 worked. At the moment he is still chasing EA8AA and ZSSBK. ZDG improved his score with MP4ABD\* (Bahrein), FB8BB\*, EA0AB\*, 8B3AA\* (Bulgaria, QSL via 854AK). Congrats to Keith on winning the 2nd Section of the VK-ZL Contest for '51. 2OW finds the bands not very much to his liking, but just the same lists SUIAD\*, SUIPA, SUIGC, 4Q4CM, VQ4AQ, EA5AM, 4X4BX, 4U4J, LUBEN\*, HS1AS\*, FNSAD\*, KG4AF\*, FBEX/AR\*, ZS1BM, MP4KAE, MP4BBD\*, 4Q3FM\*. ZS1BM gave Gordon his first South African. 3CX has been trying to hook FV3VN, FZ1AL and YN1AA with negative results, but got on to JA0JL (two times) and EK1CW giving him a score of 168. 4QL: VQSCW\*, FB7ZA\*, FMTWP\* 2100Z, CN8R, EQ3FM, MP4KAE\* (via R.S.G.B.), IS1CN, FFA3J, VQSCB, 4Q3FM, F08AB\*, 4U4D, 4U4J\*, ZD4HH, JA0JL, EA8BE. TRK, as mentioned earlier, has been inactive, due to a shack clean-up, but now that he has found his rig is going to produce some activity. 9XK has sneaked up to 106 worked with things like CN8R\*, CR5AF\*, EK1AC, EK1CW, FZ3R and FFA3J. FFA3J, VQ6TH, M13LK\*: Russ heard ZD1SD but no luck.

28 Mc.: This band seems to be useless. 4ZL reckons it's hardly worth while listening there.

The QSL situation is causing heartburnings as usual, some VKs getting one, whilst others miss out, from the same rare DX station. 2ACX reaches 205 confirmed with ZSSBK, 3A2AC, FTYTB, 3A2AD, 854AR, ZDG: EA0AB, 3OW: ZD1AA, 854AX, FB8AB, 4Q3J, DULEIC, giving him now 99 cdf. DULEIC looks like the boy to watch for that grade to get DU QSL. 4QL: ZD1ED, YU5AB, FB7ZA, CM1, 9XK, FFA3J and VQSCB. The grape vine tells me 5FL has reached the nice total of 294/197.

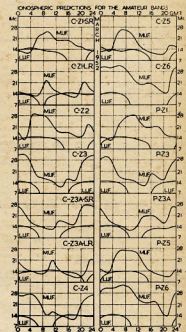
It would appear that a few of the gang are counting the 4UA prefix as a new country. It will be found this is not a country but a prefix allotted to the United Nations, and therefore is likely to appear in a number of countries. For example, 4U4D is in New Delhi, 4U4J Jaipur and 4U4K in Rawal Pindi, Kashmir is not at the present time a separate country. Just received a QSL from 4U4K and the inscription on the card is: United Nations, Military Observation Group, India and Pakistan, Field Observation Team, Kotli, Pakistan.

Don't pass up JA0JL as just another JA station. He is in two Jims. The reason for the 2AO is not known to date. EQ3FM looks like one of those guys who promises a QSL, but after waiting over a year they are still not being sent. CR5AA is of a different breed and keeps his promise. On my QSL from ZD1SD he said he is having great difficulty in convincing the other ZD1 Hams he has really worked VK. As he said VK is an unknown prefix over there. Is anxiously waiting my QSL to convince the "Doubting Thomas." Don't pass MP4KAE up as another MP4 like 4ZL did. His QTH is Kuwait.

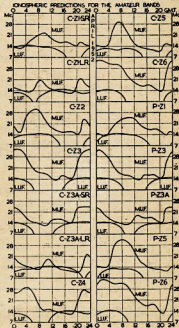
● The thought for the month is an extract from a Woman's Magazine which the XYL put in my lap one day. "Her husband was a

Ham Radio addict and he drove her wild by sitting for hours at the radio while the lawn sprouted paspalum and dandelions. "You think you will get Hollywood this morning? Well you won't," he taken out a vacuum tube, an A set, and I won't tell you where it is until the grass is cut." What are your thoughts? Cheers and keep the lawns cut, blokes.

## PREDICTION CHART FOR MARCH, 1952



## PREDICTION CHART FOR APRIL, 1952



\* Ft. L.L. F. T. Hine, No. 10 (G.R.) Squadron, R.A.A.F., Townsville, Queensland.

## DX C.C. LISTING

PHONE			
Call	No. Ctr.	Call	No. Ctr.
VK3EE	10 158	VK4WF	16 121
VK3EB	8 290	VK3UE	21 134
VK3BZ	3 194	VK3AWW	14 112
VK4HR	12 154	VK4DO	20 109
VK3RU	2 148	VK4PJ	21 106
VK3KW	4 145	VK2ADT	13 102
VK4KS	9 135	VK2AHA	15 102
VK4AM	11 132	VK4PJ	21 106
VK4DD	6 126	VK3IG	19 101
VK3JE	7 123	VK3GG	18 100
VK4WJ	17 122		
C.W.			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	3 194	VK3UE	21 134
VK3PH	15 172	VK3JD	27 123
VK4HR	8 166	VK3EK	3 122
VK4EL	9 163	VK3PH	31 119
VK3BZ	2 148	VK3JT	35 118
VK3CN	1 151	VK3UM	12 116
VK6SA	28 150	VK4DA	7 113
VK3IW	4 143	VK3PL	38 113
VK3QL	5 143	VK7LZ	17 112
VK3KB	10 138	VK4RC	13 107
VK6RU	18 130	VK3PL	39 106
VK3GW	16 123	VK2VY	94 103
VK3RX	23 122	VK3HT	27 103
VK3CX	26 123	VK3JAF	14 101
VK3AD	20 120	VK3AA	19 101
VK4PJ	29 129	VK2QA	32 101
VK3BO	33 129	VK7RK	22 100
VK3CX	30 128	VK7LZ	24 100
VK4QL	36 128	VK2AE	35 100
VK4RF	11 125		
OPEN			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	4 213	VK3VQ	45 116
VK3RU	8 213	VK3AWW	14 112
VK3BZ	3 194	VK3JA	43 114
VK3JE	12 180	VK2ADT	14 113
VK3HG	3 171	VK3PO	47 111
VK3CX	10 170	VK3MM	49 111
VK3KX	1 167	VK4RC	21 110
VK3KW	13 165	VK3ZB	34 110
VK3BZ	10 163	VK3ZC	35 108
VK4DO	15 157	VK2YL	11 106
VK4PJ	32 125	VK3AWN	36 105
VK3BZ	16 139	VK3VY	17 104
VK3FL	26 143	VK4UL	27 104
VK3MC	5 139	VK6PJ	44 104
VK3SO	19 137	VK3PO	50 104
VK3BZ	10 136	VK3HZ	17 103
VK3LN	25 135	VK7KB	30 103
VK3ADE	28 133	VK3FT	37 103
VK3AD	28 132	VK3HO	38 103
VK4WF	40 128	VK6XD	42 103
VK2AHM	20 125	VK7RK	31 102
VK3BZ	16 123	VK3VQ	45 102
VK3HT	41 123	VK3GW	49 102
VK3JL	33 119	VK3ACX	6 100
VK7LZ	33 116	VK3TG	39 100



# AMATEUR CALL SIGNS

FOR MONTHS OF DECEMBER, 1951, AND  
JANUARY, 1952

## ADDITIONS

### VK—New South Wales

- 2FN—F. G. Noble, 43 James St. Lismore.  
2ACK—C. Jeffery, 33 Seymour St. Hurstville.  
2AMY—A. R. Morgan, 123 Victoria St. Ashfield.  
2ABO—R. Overton, 52 Mowbray Rd. Wolloughby.  
2ASY—S. A. Sibby, 5 Collins Ave., Rose Bay.

### Victoria

- 3IJ—D. R. Twigg, Bank St. Avenel.  
3IJ—R. W. Field, 606 North Rd., Ormond, S.E.14  
3NP—M. J. Marshall, 28 Cloverdale Av., Toorak, S.E.2.  
3OL—F. C. Bibby, 10 Westbourne Gr., Camberwell, E.8.  
3SX—L. R. Bradshaw, 9 Grange Rd., Toorak, S.E.2.  
3VU—J. C. Chippindall, 29 Waverley Pde., Pascoe Vale.

- 3AMG—C. W. Meech, 22 Clendon Rd., Armadale.  
3ANR—N. Cooper, 13 Moor St., Sandringham, S.8  
3ANU—R. Coffin, aboard vessel "Carle G",  
Postal address: 10 Dillon Gr., Glen Iris.

### Queensland

- 4MY—R. C. Morris, 39 Kent St. Rockhampton.  
4NV—L. L. Neaverson, "Hollandia", Lamrock St. Holland Park, Brisbane.  
4VD—V. S. Bell, 35 Jones St., Wandal, Rockhampton.  
4ZO—J. Hillhouse, Carpet St., Collinsville.

### South Australia

- 5JO—J. E. McAllister, 125a Chief St., Brompton.  
5QY—C. W. Richardson, R.A.A.F. Station, Darwin, N.T.

### Western Australia

- 6LC—E. L. L. Cordell, Flying Doctor Service, Killarney St., Kalgoorlie.

### Tasmania

- 7CH—C. Harrison, A.N.Z. Bank Ltd., Moonah.  
7TF—F. D. Frith, 60 Lyttelton St., Launceston.  
7RC—R. C. Ireson, c/o D.C.A. Aerodrome, Western Junction.

### ALTERATIONS

#### VK—New South Wales

- 2CZ—128 Wangee Road, Lakemba.  
2FA—30 Strathcona, Strathfield.  
2JX—"Omipere", Blackland Road, Wentworth Falls.  
2LB—383 Cabramatta Road, Cabramatta.  
2IO—140 Lucinda Avenue, Wooronga.  
2OE—140 Hood Street, Grafton.  
2QU—81 Methven Street, Lithgow.  
2SV—248 Buffalo Road, Ryde.  
2YV—55 Herbert Street, Rockdale.  
2XB—34 Westbourne Road, Roseville.  
2YV—2 Tenilba Road, Northbridge.  
2AAE—Lot 9, Chisholm Street, Turramurra.  
2ACM—33 Botony Street, Randwick, N.S.W.  
2AFQ—Vessel "Syngale", Campbell's Boatshed, Rose Bay.  
2AFS—R.A.A.F. Station, Williamstown.  
2AOM—Flat 26, 42 Macleay St., Potts Point.  
2ASB—29 Campbell St., Ainslie, Canberra.  
2AZO—38 St. George's Crescent, Drummoyne.

### Victoria

- 3AC—156 Moreland Road, West Brunswick.  
3BF—Lot 16, Quinns Road, East Bentleigh.  
3DO—2 Wadham Street, Pascoe Vale South, W.7.  
3DE—207 Pt. Nepean Road, Gardenvale, S.4.  
3EV—205 Scott Street, Warracknabeel.  
3GN—Cr. Speed St. & Toucher Ave., Ararat.  
3HC—"Yanagin", 45 Banksia St., Heidelberg.  
3IZ—35 Bent Avenue, Wodonga.  
3JU—Argent Road, Cornella.  
3KQ—Churchill Island, Newhaven.  
3RU—Lot 8, Chisholm Street, Turramurra.  
3RV—Cr. Boulevard & Centre Aves., Eldon.  
3VQ—480 Beach Road, Beaumaris, S.10.  
3WJ—20 Ruby Street, East Preston, N.18.  
3YR—11 Derry Street, Doncaster West, W.5.  
3ABN—C/o. Paynesville P.O.  
3AEP—6 Kerry Parade, Box Hill North, E.12.  
3AO—18 Sobran Street, Shepparton.  
3AKP—Fisher Street, Stawell.  
3AMC—Hampton Villa, Princes St., Drysdale.  
3AOP—46 Neill Street, West Geelong.  
3ASC—17 Chloris Street, Caulfield Sth., S.E.2.  
3ATN—Cumming Avenue, Birchip.  
3AUW—27 Berry Street, Regens Park.  
3AZK—7 Bent Street, Bentleigh.

### Queensland

- 4BY—Fairview Hill, Gympie.  
4DR—257 Rainbow Street, Shorncliffe, N.E.7.  
4TF—Flat 74C, Victoria Park Housing Commission, Brisbane.

- 4GG—John Street, Yarraman.  
4MD—22 Baildon Street, Kangaroo Point.  
4SE—55 Adelaide Street, Maryborough.  
4TD—Hope Street, Cooktown.  
4WJ—C/o. Fowler House, Quilpie.  
4XJ—4 Catermill Street, West Bundaberg.  
4ZS—44 Prospect Street, Rockhampton.  
4ZZ—Hut 19, Harristown, T.A.

### South Australia

- 5BI—Croydon Boys' Technical School, Croydon.  
5DF—Kirtion Point, Port Lincoln.  
5DR—Cape Borda Lighthouse, Kangaroo Island.  
5MI—29 Main Street, Quilpie.  
5WX—9 Blairgowrie Avenue, St. Georges.  
5XR—20 Pine Street, Peterborough.  
5YQ—42 Adelaide Terrace, Ascot Park.

### Western Australia

- 6DQ—151 Guildcliffe Street, Scarborough.  
6EX—2 West Street, West Perth.  
6RB—148 McDonald Street, Joondanna Heights.

### Tasmania

- 7CA—56 Trevallyn Road, Launceston.

### Territories

- 9HI—Lawes Road, Port Moresby.

## DELETIONS

### New South Wales

- 2FU—Cancelled.  
2HI—Cancelled.  
2HX—Cancelled.  
2HY—Cancelled.  
2KJ—Cancelled.  
2ON—Cancelled.  
2PY—Cancelled: now operating 8PY.  
3CN—Cancelled: now operating 7CH.  
3LR—Cancelled.  
3YQ—Cancelled: now operating 3QV.  
3ABV—Cancelled: now operating 7PF.

### Victoria

- 3AFK—Cancelled.  
3AFU—Cancelled: now operating 2FN.  
3AHX—Cancelled: now operating 3VU.  
3AOZ—Cancelled.

### Queensland

- 4JG—Cancelled.  
4KH—Cancelled.  
4LF—Cancelled.

### South Australia

- 5IM—Cancelled: now operating 3AMG.  
5IR—Cancelled: now operating 3UN.

### Tasmania

- 7GH—Cancelled.

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\* Type OT766-6 Low-level Output Transformer, 20,000/600 ohms, match single ended stage shunt fed, 1 watt max., F.F.R. .... 31/6  
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\* Type IT557-6 Interstage Transformer, 20,000/80,000 ohms for single ended stage, V.F.R. .... 31/6  
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\* Type IT577-10 Input Transformer, low-level, 500/100,000 ohms, mumetal core, for use with shunt fed primary, F.F.R. .... 49/6  
\* Type IT580-6 Input Transformer, low-level, 600/150,000 ohms, mumetal core, for use with shunt fed primary, F.F.R. .... 49/6  
\* Type LT310-10 Line Transformer, 50/600 ohms, balanced to unbalanced line, mumetal core, F.F.R. .... 49/6  
\* Type Z982-1 Filter Choke, 12 henry, 300 Ma. .... 52/6  
\* Type Z1013-1 Filter Choke, 7 henry, 250 Ma. .... 45/-  
\* Type Z969-1 Filter Choke, 30 henry, 80 Ma. .... 37/6

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# FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: G. GLOVER (VK3AG); Federal Secretary: G. M. HULL (VK8ZS); Box 2511W, G.P.O., Melbourne.

## NEW SOUTH WALES

President: John Moyle, VK3JU.  
Secretary: David H. Duff (VK2EO), Box 1734 G.P.O., Sydney.  
Meeting Night: Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: Harry Powell, VK2AYP, 9 Russell Avenue, Wahroonga.

Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave, West Kempsey; Newcastle: Ron McD, Stuart, VK3ASJ, 88 Dun St, Broadmeadow; Central and Lakes: Harry Hawkins, VK2YL, 27 Comfort Ave, Cessnock; Western: W. H. Smith, VK2WH, 10 Cambria, Forbes; South Coast and Southern: Roy Raynor, VK2DO, 42 Pettit St, Yass; Eastern Suburbs: Don Knock, VK3NO, 42 Yanko Ave, Waverley; Northern Suburbs: Harry Powell, VK2AYP, Russell Ave, Wahroonga; St. George: Chas. Coyle, VK3YK, 84 Carlton Cres, Kogarah Bay.

## VICTORIA

President: G. S. C. Semmens, VK3GS.  
Secretary: L. R. Bradshaw, VK3SX.

## FEDERAL

### COMMERCIAL INTERFERENCE IN THE 7 Mc. BAND

Many have been the requests by Amateurs for something to be done about the commercial interference gradually dominating the 7 Mc. band. This matter has been taken up with the Department on numerous occasions, but it appears that very little could be done about it.

It is doubtful whether many Amateurs are fully aware of the full story surrounding allocations in this band and the difficulties any administration would have in taking steps to clear it for Amateur use.

The editorial in the December, 1951, issue of "QST" gives a rather comprehensive and heavy-handed analysis of the general problem in this band and, whilst it concerns mainly the effects in the northern hemisphere, it does also give a clear picture of the frequency allocation arising from the Cairo (1938) and Atlantic City (1947) Conventions whereby the 7000 to 7200 Mc. (a.c.) band in the southern hemisphere is a shared channel.

Australia, like America, preserved portions of the 7 Mc. band exclusively for Amateur use, but it was decided that the allocation to the discretion of the national administrations. So whilst we are granted 7 to 7.2 Mc. exclusively as far as our administration is concerned other administrations permit broadcasting down to as low as 7.1 Mc. How can we win?

Anyway, boys, you read December "QST".

## DEFENCE

At 2.30 p.m. on Monday, 4th February, members of Federal Executive received a two-hour hearing at the signals and joint services Committee to discuss proposals whereby Amateurs could be of assistance in any defence plans for times of national emergency.

The W.I. was discussed with great interest and hopes are running high for future results from this meeting. The accent is on the civil, military, and air, and every Amateur should take steps now to interest himself in constructing reliable portable equipment for use in the civil, military, and air. It won't but be prepared for any plan that may evolve. If the Institute is successful in its negotiations it will be the greatest opportunity which has ever had to show what it can and will do.

## TRAVELLERS ABROAD

Once again the opportunity has presented itself for Federal Executive to send a letter of introduction to a member of the Institute travelling abroad. This time it is to J. L. (Len) Crooks, VK2BQ, introducing him to the members of the R.S.G.B. in England. Len also proposes to travel in Europe. We hope he has an enjoyable trip and a safe return to his native land.

Don't forget, any time you propose travelling outside of VK to contact F.E. through your Council send them a letter of introduction to the society in the country in which it is proposed to travel. National contact is a very important thing, and it is the bonds of Amateur friendship when done in person by any other means.

Administrative Secretary: Mrs. S. May, Law Court Chambers, 191 Queen St., Melbourne.  
Meeting Night: First Wednesday of each month at the Radio School, Melb. Technical College.  
Zone Correspondents: Western: C. G. Waring, VK3YD, 515 St. Stawell; South Western: K. O'Rourke, VK3AKR, Killgrew, Westmore; North Eastern: T. K. Tennant, VK3JG, 36 Wilson Ave, Tatura; Far North West: M. Polle, VK3JG, 101 Lennox Ave, Mildura; Eastern: H. O. Kellas, VK3AHK, Timbarra; North Western: C. Case, VK3ACE, Cummingham Ave, Birchp.

## QUEENSLAND

President: J. F. Farrell, VK4WJ.  
Secretary: J. P. Pickles, VK4FP, Box 438J, G.P.O., Brisbane.  
Meeting Night: Third Friday of each month at the I.R.E. Rooms, Wickham St. Valley.  
Divisional Sub-Editor: Clive J. Cooke, VK4CC, Kuran Street, Chermside, Brisbane.

## SOUTH AUSTRALIA

President: E. A. Barber, VK3MD.  
Secretary: G. M. Bowen, VK3XU, Box 1234K, G.P.O., Adelaide.

## SILENT KEY

It is with deep regret that we record the passing of:-

VK3VK—Mr. M. Bowen.

## ADDITIONS TO DX C.C. LIST

The following countries are now eligible for the DX C.C. List:—  
Guinea, Spanish Sahara, Mauritania, Mauritius, EAO, FBS  
Contacts with Newfoundland prior to 31/3/49 will be counted.

## W.A.C. AMERICA

Requests have often been received as to how one goes about obtaining the W.A.C. (Worked All Continents) America Award. This award is presented by the I.A.R.U. to any Amateur who can give satisfactory evidence that he or she has contacted each of the six recognised continental areas of the world by two-way communication with other Amateur stations. The main continental areas are: North America, South America, Europe, Asia, Africa and Oceania.

By agreement with the I.A.R.U., the necessity for applicants to forward cards to America is waived by the appointment of an Officer of the Institute to undertake the checking of the verification cards submitted in support of the claim for the award.

An applicant for the award submits his written application, together with his verification cards, to the Secretary of his Division. The Secretary then verifies that he is a financial member and sends the application to the Federal QSL Manager, Ray Jones, VK3RJ, c/o Box 2511W, G.P.O., Melbourne, C.I., who checks the verification cards submitted, forwards the application to Federal Executive. The Federal Secretary applies to the I.A.R.U. on behalf of the applicant and the certificate is forwarded out in due course.

A specially endorsed certificate is available to an applicant who makes all six contacts on phone.

When applying please don't forget to give your name and address and return postage for your cards.

## FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

The QTH of 4U4J is Ted Gull, United Nations Radio, Jammu, Kashmir.

Results of the Third All-European DX Competition, 1949, have just come to hand. The Australian team, as follows: C.W. 2F, 2FO, 2XK, 2GW, 2RA, late 4RC, 3RJ; Phone: no VK stations listed.

On November, 1951, G2PFT makes enquiries of Bill Aglar, VK3WH. Write states that after spending 12 months in Con-

testing Night: Second Tuesday of each month at 17 Wymouth St., Adelaide.  
Divisional Sub-Editor: J. Parsons, VKPMS, 10 Victoria Avenue, Rose Park.

## WESTERN AUSTRALIA

President: J. Campbell-Watson, VK4WV.  
Secretary: H. B. Lang, Box N102, G.P.O., Perth, W.A.  
Meeting Place: Perth Technical College Annex, Mounts Bay Road, Perth.  
Meeting Night: Second Monday of each month. Divisional Sub-Editor: M. Atkinson, VK5WZ, Box 137, Geraldton, W.A.

## TASMANIA

President: R. O'May, VK7OM.  
Secretary: L. W. Edwards, VK7LE, Box 371B, G.P.O., Hobart.  
Meeting Night: First Wednesday of each month at the Photographic Society's Rooms, 183 Liverpool St., Hobart.

Divisional Sub-Editor: S. Exzell, VK7SJ, 77 Mole St., Hobart, Tasmania.  
Zone Correspondents: Northern: C. A. Cullinan, VK3XW, 12 Montrose Place, Launceston; North Western: R. R. Wilson, Menz St., Burnie, Tasmania.

try and making many friends. Bill left to go to Sweden, but the Coventry gang have heard no news of him since. They pass along their best wishes and would like to hear from him. The Cuba Ram Club again send information on how to obtain the W.C.A. (Worked Cuba Award) and express surprise that they have had no VK claimants so far. Prime requirement of the award is having worked stations in CM1, 2, 3, 5, 6, 7 and 8 districts. Other requirements can be ascertained from this Bureau.

ZS6BW, who is handling the QSLs for ZS2MI, operating on Marion Island, advises that ZS2MI is on from 0400 to 0600 hours on Thursdays in each four. He uses the following frequencies: 1st choice 14350, 2nd choice 14180. He is a very unfortunate fellow, as he has to use his own frequency. He will be on Sundays, 18th, 17th and 24th February, then miss one Sunday of March, and on Sundays, 4th, 18th and 23rd March, and so on.

Reviewed rules of the Worked All Europe Award to have been sent to the I.A.R.U. If the Editor can find the space, it is proposed to briefly list the requirements for all awards in the near future.

An interesting batch of cards sighted during January were from EQ3FM, of Teheran, Iran. QSL address, however, is: Sgt. Frank Murphy, U.S. Mil. Mission, A.P.O. 205, care P.M., New York, U.S.A.

A correspondent seeks information on QZPOM who has been heard on 7 Mc. phone stating his QTH is Kalambo, Somalia, like a "black" one.

B.E.R.S. 195 (Treb) has broken the silence. In addition to performing amateur duties at Nhill at end of 1951 and subsequently enjoying annual holidays, Eric has been busy logging stations in the recent past. He has also been working portable stations in the Contest, is thrilled with recent receipt of card from FBZ2Z (1950-51 expedition to New Amsterdam Island). Also repeatedly being asked to give a first within a few VKIVU. Must have caught him with his heart very wide open Treb. You are the only one I have heard of possessing such a "treasure".

## NEW SOUTH WALES

### NORTHERN SUBURBS

There has been little activity in this area since Xmas, though bush fires have caused some excitement in the Hornsby District. Ted 2FE had a very narrow escape in Mt. Kuringal when he was completely surrounded by his home which was extremely lucky to save. Three Hams, among others, arrived to help with the fighting. Recently our own Ted 2FE was first within a few hundred feet of his home: Dave was last heard of sitting on his beam pole (with a bucket of water) at 2.4J, and Ted 2FE was heard after DX on 20. 2FD heard on 20 mx phone. 2AIE heard after DX on 20. 2ARN heard on the air again after about three months' spell.

It is good to hear some of the h.c. gang on the lower frequencies, 2ANF and others active on forty. Max 2OT, from Broken Hill, called 2EAG 20.20 and was reading a first within a few QTH in Newcastle, where a 75 ft. tower will mark the spot. Dave 2EO operated portable

on his car trip to Melbourne and back, having daily contacts with 2AYP during the trip. It is good to hear Dave once again on the air when his job as Divisional Secretary allows. News about the activity of Hams in any area would be appreciated by the Sub-Editor and also by the readers of "A.R." Box 174, G.P.O., Sydney, or 9 Russell Avenue, Wahroonga, J.W. 2604.

#### WESTERN SUBURBS

There has been considerable activity on the various bands during the past few months by members residing within the limits of the Western Suburbs. 2ANP and 2MQ are doing very well on 3 mX these days, near nightly sXeds with 2NS and no doubt will eventually break into the Forbes district in the near future. 2ARF was away for Xmas and finished up having an excellent Xmas dinner (one glass milk) in hospital, back on deck now fully recovered. 2CQQ now on 144, we hear though not so well on this band as Perry. 2AHU is on the air again now, is to be congratulated, along with Joyce, on the new second op. Hear that young Keith is colour conscious already. 2AAB still looking for DX, has totted his list of countries up ready for DX C.C., and

must be getting pretty close. Heard Joyce 2AMJ putting the usual good signal out of late, she never seems to be satisfied with the Rx, but works them just the same. 2AWU talks a lot about beams, but should put out the herbs in the right direction. 2APL heard frequently with a good signal despite the skip. The Burwood Radio Club meets each Tuesday night at Greenwood Rd. Liverpool Road, Edgefield. A good night assured to all who care to attend. 2AIR is building a real Tx for 144, gets out from the Ballarat 2A2X, 2A2Y, 2A2Z on holidays these days, but the local foot is being held quite well by 2APT, 2XH, 2VY, 2OP, 2NJ and a few more of the local boys. 2ABA has a very good signal on 14 Mc., another beam coming up in the near future.

2AAH quite active again despite the study, nice drop of 1m. 2A2X is working on the typing, word and trying to work DX, but getting interested in 144. 2AGG in camp at Ingleburn these days and so soon after getting his ticket as well. 2ATL was on holidays but heard on 20 occasionally. 2KKS still works DX the hard way in the morning. 2ANP has a beam which appears to be working out quite nicely. 2ARA heard on 20. 2A2X is still getting the Tx down there and was heard talking of getting on 110.

#### BROKEN HILL AREA

With Max 2OT's departure from Broken Hill it will, in future, be my pleasant task to keep the flag flying in this part of the Western Zone. Max left on a caravaning-radio holiday via Mildura, Bendigo, Melbourne, Albury and Canberra before taking up his new post as Electrical Master at a Newcastle school. He has been heard all the way and contacted many Hams along the way, personally also. Another teacher, Ron 2YVR, has been referred to the "addition and subtraction" staff at Bathurst. Before leaving, he was putting the finishing touches to the car radio, converter and Tx for 40. 2DQJ is renewing old acquaintances and making many new ones while in VKS; Dud is active on 50 Mc., but is having trouble laminating the p.p. 107.

2AMX has been on vacation visiting VKS Hams along the trip. 2RV still too busy fixing h.c. sets so he can give them all b.c. when the customers get them back. 2AFW is working out how to suspend or otherwise mount a Type A Mk. III, on his newly acquired motor bike and if solved, then where to tack away the extra six volt battery. Absence of any Silver City notes any month may mean the National Safety Council can quote another case! —2AFW.

#### NORTH COAST AND TABLELANDS

Christmas and New Year saw quite a lot of the chaps on holidays and many of them visited other 'zones', we too had many visitors from other zones as well. We are always happy to see anyone travelling through; if you come this way at Easter, don't forget the Urunga "Do" and all the prizes that can be won there.

A newcomer to the air, Alan 2ARQ, holidayed near Grafton and was operating portable. 2ADT and 2IC spent quite a time at Urunga and worked regular 144 sXeds with 2XO. Hart put up a second tank on his shack but omitted to connect it up with the overflow from the original one. Last heard, Hart was paying for water to be ordered—pumped to his omission. Not satisfied with that, he fell twice from his launch, but caught a few taller. Heard Joyce 2SIL early in the year teasing 2A2Y by drinking his health—made one thirsty. Bill 2ZY of Murwillumbah has been heard around 40 again, reason for his absence was a speedboat and a YL.

Len 2LR is busy re-building his shack which incidentally was "pre-labbed" before erection. Norm 2RK was very active in the N.E.D. was heard rattling up a good score. Ken 2AFB has managed to buy himself a house, so it looks like Audrey will have to run him down the little car to his new home as predicted last month. Highlight for the N. Coast boys was the VK4 "do" at Somerset Dam; it was a good show for a first effort and future gatherings have great possibilities. The N.C. was represented by 2LR and 2AHH, both of whom enjoyed the hospitality of the VK4 boys and met many of their regular contacts for the first time. Your scribe, in journeying to Kyogle to meet Len 2LR, had the privilege of meeting many of the N.C. gang and takes the opportunity to thank all those who made the trip so pleasant. Antenna farms at 2XO, 2APB, 2LH and 2LR were inspected and 2XO has more beams around the place than the Red Australia. I hope to meet more of the crowd next year. Would like to hear from the boys in Inverell and Narrabri. Don't forget, it's a date at Urunga at Easter.

#### HUNTER BRANCH

The big news this month is, of course, the result of the all band section of the Jubilee DX Contest. All extend hearty congrats to

fellow Hunter Hams 2DG, 2AHA and 2ZC, on not only maintaining, but putting on an even higher level, the good name of Hunter Branch. Keith 2DG was well rewarded for fine operating when he received the first prize in gaining first position in c.w. Harold 2AHA was not far behind in second place, followed by Jim 2ZC. First three places! Double congrats to 2AHA for his superb work in gaining second place in phone section also. We are very proud of you chaps and the job you've done without any fuss or bother. We are proud to have you in first in phone section, we offer hearty congrats to 4KS. Keith can certainly handle the contest. We also congratulate the VK3 who came first.

President 2CS, accompanied by Bill 2XT and Johnny 2DZ, not forgetting Keith 2DG, represented the Hunter Branch at the Jubilee Dinner of the N.S.W. Division held in the "Big Smoke." Lionel puffed with pride when "his boys' names were announced as winners in the Jubilee Contest, an understanding was reached that an excellent speech in supporting the toast to the Federal Government, during the course of which he subtly reminded those present that Alan 2AHH and Keith 2DKB were awarded the prizes on behalf of the Government, was also a Hunter Ham!

Assistants Ron Appleby also made the trip down to the Dianier, Bill 2XT, who has always been a hard worker for the W.I.A., really deserves a medalion himself for taking the boys (especially 2DZ) to the Jubilee Dinner. Keith 2DG home to Majiland, he then drove him out to the b.c. station at Lochinvar where Keith worked. Bill reached home at 21.45. That's the Ham spirit plus. 2FZ also co-operated and worked 2DG's shift.

Anna Bay was QTH chosen by our team in National Field Day and all signs of 2AHN. The advance party comprising Secretary 2SF, Ivan 2IS, Associates John Borg, Les Baber, 2SV Daniels, with 2ASJ, set up camp on the Saturday afternoon. After a few hours about bluntness of axe, 2IS felled four poles which were tied all over 2SF's utility and with Les hanging by seat of his pants, some dare-devil driving by Varley, a point very close to Tx site was safely reached. The poles were erected quickly despite southerly gale roaring up from the sea. The set was up and working in progress. This made the ops. hungry (and thirsty!) and while 2IS' buggy vanished in the direction of Nelson's, 2AHN and 2ASJ returned to town for the night. Meantime, 2SF, assisted by Ass. 2SV, prepared Dinner, while 2ASJ sat and watched—until Greenhead and 2SV had had their share of beer and a scrumptious meat pie and a couple of squat tubes, the emission of which caused 2SF and 2IS to modular many a word, while 2AHN further tested QSO's were held! (No wonder the battery ran flat!) Ivan and Varley decided to make trip down to 2IS' shack where more tobacco and smoking material was stored for breakfast! John and Les returned shortly after and the first two Contest contacts were made soon after 0800. Then Chief op. 2AHA and George 2AGD arrived and Harold soon had things running smoothly.

Harold's HA10 Transceiver did a mighty job with 5 watts phone and 7 watts c.w. It held well until 1330 when heavy rain put 2AHA/P off the air until 2035 when we made a comeback for the last few minutes. The rain was over and the Radio had been fixed, but they did a grand job assisting in many ways. Harold was master operator, but was ably assisted by Varley, John and George.

A item of interest comes from Johnny 2DZ. He has learned from a letter written to him by his sister in London, who was present at a reception accorded to the "Enterprise" fame, that Carl belongs to the Ham fraternity and operates from his home town in New Jersey with c/s W2EXM. It was planned to send Vice-President 2AHH in the chair at the January meeting whilst President

#### 15th B.E.R.U. CONTESTS, 1952

Unfortunately the rules for these Contests arrived too late for publication in full. The event will be divided into three sections, namely:—(a) Senior telegraphy (max. 500 watts, max. 1000 ft. Jansky or telegraphy (25 watts max. input); (c) Telephony (max. licensed power).

The contest periods will be: Senior Telegraphy (Senior and Junior): From 1200 G.M.T., March 29, to 1200 G.M.T., March 30, 1952. Telephony: From 1200 G.M.T., April 3, to 1200 G.M.T., April 6, 1952.

Further details of the rules, etc., may be obtained from your Divisional Secretary or the Federal QSL Manager.

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VICTORIA

2CS gave interesting talk on Double Conversion Receivers.

**Results of Meeting.**—The March meeting will be held in Newcastle on Friday, 14th. Further details over 2WL. An interesting evening is assured.

#### COALFIELDS AND LAKES

With the continued dry weather in this zone the strongest signals seem to emanate from the power leaks which seem to be universal—poor quality coal 1 power. Harry 2YL managed to get in a few contacts on 6 and 20 just to prove that the gear still works, but the elements have taken a lot of punishment. Bruce 2ZL still displays two aerials, but I have not heard them being excited for some time. Chris 2PZ cleared up his work bench and found his power supply half re-designed. However, he cannot recollect the intended design or where he left off. He is contemplating a trip up the tower with the paint brush (2EO please note). 2ADT gave the game away (almost) for a whole month and returned much refreshed. Quite an effort to stay away with so much DX on 6 and so many messages to tell him how good it was. Up at Muswellbrook 2ANU is building new converter for 144 and planning portable gear for his holidays in a few weeks' time. We are waiting for 2PZ to get cracking on 20 m, but Geoff is still very busy with odd jobs round the house. That's will-power for you, or is he just a power junkie? Quite a few. Nothing heard from Kurri, but I guess those boys are hatching something big or lying in wait for a signal to come through on 10. There is little to report from the Lakes area. 2KRR has been busy with carnivals and 2ZRU has been busy with power leaks, but not ordinarily. What are you other chaps doing these days?

#### WESTERN ZONE

Heat, holidays and a few bush fires kept many of the zone's Hams from their shacks. As 7 Mc was unusable for most of the month it was difficult to keep track of all the activity. So far all the gang residing in the Blue Mts. have escaped the bush fires. Jack 2EF at 144 was busy looking at a trip up the tower burnt out on one side of him—144 altogether in the street—glad to see you miss it Jack. 2EJ at 144 Valley Heights has been very busy. A total loss. Believe there is a new Ham in Dubbo but no call yet. 2AGN has migrated from 20 m to 30 m. Sorry to hear that 2G in Bathurst main activity centres on 144 where Trevor 2NS is using all his wiles in putting a signal and better signal into Sydney. Tom 2AMR journeyed down to Sydney to receive the medalion for second place in the Jubilee 1975, presented at the Annual Dinner at the OT. 2G at Parkes heard on 144 only. John 2AMR spends more time in the baths than the shack. 2VW went down to Sydney for his usual monthly break—saw Malcolm 2FO and Trev 2NS on the way. Ex-2LY, of Katoomba, now 2KZ is back in the zone. 2KX was active with some of the gear he left at home. Rod 2ACU journeyed to Vic. and S.A. during the holidays, visited Bill and Col 2ASF of Eden on the trip. 2JX of Wentworth Falls has a new antenna (two elements) on 50, threatens to describe it for A.R. 2LZ mainly building, but sometimes on 50. 2EX threatens to re-build. 2KZ still trying to work a W in the morning on 20 m. 2KZ is back on the long way, has a QRLZ to date, but that is all. New one in the zone is 2ART, ex-4YH, at Glenbrook, but not heard to date.

#### VICTORIA

##### EASTERN ZONE

As my assistant, 3SG, is busily constructing a new p.p. 807 final, once again it is my duty to record or invent news of this zone. 2SS has had three weeks' holiday at Lakes Entrance—these radio mechanics must be taking the heat! 3BB and 2APF still making noise from 350. 3PR using a new rig—p.p. 807s—a full gallon with Class B 807s as modulators. What! No 807s? John 2ADA is still local at Woomera in VK3, and would like some mail from this end. Also advises that permission has been granted to establish a radio club at the station.

3ABP active on 40 mx phone. Doug 3ASE, at East Sale, is mad with the DX—20 mx c.w. R.A.F. Associate Ray Pulford is doing an

This photograph was taken by 3DW at the North Eastern Zone Picnic. From left to right: 3KR, 3PF, 3HZ, 3APF, 3JL, 3UL, 3DW, Ken McInnes, 3JC, and 3TS. In the background is rig with which Alan 3UL worked VK3 on 2 metres—few minutes later.

(Block by courtesy of North Eastern Zone.)

advanced course at Ballarat. 3TH will have joined the ranks of the benedicts before this bit print. Congrats and best wishes, Gordon and Charmaine, and don't forget the cream sponge! The Sale boys, 3ABP, 3JAFG, 3GD and company, are conspicuous by their absence from the air. 3IO and 3AJA still not in the hook-up. 3ANC still quiet at Traralgon and 3AGP and 3AMV keeping up the QRM from Morwell and Warraqui respectively. 3QZ attended Country Week Bowls in Melbourne in February. Can you turn 'em from the off, Graham? That's about all for this month, but I would like to know how to suppress the remaining sideband when using a.s.a.c.? Cheers

#### SOUTH WESTERN ZONE

Once again things have been fairly quiet this month and with the lack of news for this month goes my 1952 New Year's resolution. 2HJ has now got an alpine and petrol motor driving his alternator and now has his full 240 volts; Neil had great trouble with his power supply filter condenser. The change was first made. 3AGD spent the other Sunday over at Lake Glinthigh, doing aerobatics on the water; John soon discovered that falling off an aquaplane at a speed of 50 m.p.h. could be very painful; however, the art of travelling behind a racing speedboat, on an aquaplane, was soon mastered and John reckons the sport we had with a board behind the Landrover around Lake Colac was simply chicken-spread.

If contributors desire to supply blocks for publication in "A.R.", it is suggested that they first contact the Editor for particulars as to size, screen, etc.

Nothing heard from the Warrnambool area this month at all, not even from Wal 3UT. We now have a new Ham in the a.w. zone in the person of Graham Nixon-Smith, ex-2AGN and now 3NY, located at Durrinham. Graham's gear is still at his old QTH of Bathurst except for the 528 Rx which he did manage to bring with him. Let's hope you retain that three prefix for quite a while Graham.

Geelong Area—3SW, who has been absent from the air for some time, is planning to make a come-back on 20 mx with high power. 3ALP has given 40 the go-by for the time, says there is too much QRM so has gone back to 20 mx and working some DX on phone. 3AOL is on 288 Mc, also has a c.c. Tx using an 815 in the final and a three element beam on 2 m, and is on the look out for 2 m contacts with the Melbourne gang. 3APK still on 40 mx quite a bit, has also got going on 288 Mc, works 3AOL. 3ALG has been having a few contacts on 80 mx. 3BU has been out portable a bit lately. Bill's 2AID is working out nicely on 80 mx. 3BW has heard occasionally on 40 mx putting out a good signal. 3AKE active on the 2 m band. 3ART has also been heard on 20 mx. 3IC not on much but manages

to get into the zone hook-up; his phone is much better with the new mike. 3WT not heard so much now, the fine weather is here.

#### CENTRAL WESTERN ZONE

The hard luck story this month comes from one of the portables during the National Field Day, dozens of CQs were sent out but no contacts made; stations could be heard calling the said portable all day, but n.a., either the Rx was not hot or the location was crock. Of course, the poor bloke in strife was 3ART, as usual. Lin picked on the Grampians, which unfortunately have a bad reputation for being crock.

That "Old Timer," 3HL, has discovered over the past few weeks, how little basic theory he really knows, of CQs were sent, when the senior harmonics decided to swap radio theory—poor old Dad was in a spot, never mind Alan, school is in again and you are safe until the term holidays. 2ARM was busy with the zone frequency meter calibrating the new Rx, don't pick the wrong harmonic Bob! 3AKW has been out of color with a crock jaw and the "flu, or was it that party you went to in Stawell Bill?

3TA and 3RR, our two v.h.f. experts, journeyed to "Red's Lookout" (in the Grampians) on Foundation Day with the avowed intention of working VK3 on 144 Mc. However, apart from hearing one carrier early in the afternoon on about 144.6 Mc, for a few minutes, nothing else was heard but their own plaintive CQ, so it looks as if it might be in the interest of science if the v.h.f. chaps did a bit on modulating instead of putting unmodulated signals on the air. 3RR is also running ducks at present with Melbourne stations in an attempt at two-way contacts between Horsham and Melbourne; these v.h.f. blokes are certainly triers, nearly as good as us a.s.b. blokes, ho hum! 3AKP is apparently coming along slowly, as he knocked the XYL's washing down while playing round with an antenna. 3ARL's QRO supply is coming along slowly too (the slower the better), and the locals are dreading the result. 3DP has been quiet of late, but very busy on the farm, however he is still slowly moving towards that alleged n.s.b. paradise, the 14 Mc band. I wonder! Well, will we hear you on the next zone hook-up on Sunday, March, 1000 hours on approx. 7155 Kc.

#### GEELONG AMATEUR RADIO CLUB

The first meeting for 1952 went off in fine style and in spite of the holidays quite a few members attended. The President, Dick 3ABK, occupied the chair, and the business of the club was discussed at length. Later Mr. J. Beekingham talked on his c.r.o. unit which he had constructed and told members the difficulties he had to overcome in the design and construction of this unit. Many questions were asked, free time to time by the members present to which Mr. J. Beekingham answered.

The following meeting was a v.h.f. night at the club and some of the members brought along some of their gear. 3AOL brought his Tx and Rx on 288 Mc; during the evening contact was made with 3APK with good signal strength at both ends. Two visitors were welcomed at this meeting.





## QUEENSLAND

### TOWNSVILLE ZONE (By VK4RW)

Ham activity in Townsville was never at a lower ebb than at the present time as one can well learn by listening on 20 mX. There once was a time when every night there were cross-town rag-chews when the conditions were unfavourable, now one hardly ever hears a local Ham even less a rag-chewing session. Once in a while a local will be on for a night and then high presto, back to other pursuits. One sign for the days when the local club had Ern AGE as Secretary who did yeoman service in founding the club and putting it on a sound financial footing, now all remains of the club is a good bank balance.

4QL was heard again on c.w. the other night after being missing or perhaps not heard at this QTH. 4WH still chasing countries on c.w. and can be plaintively heard sending CQ DX after 6 p.m. hoping that Africa will be heard on the long path. 4TH bobbed up on the W.L.A. frequency the other Sunday calling CQ—listen, next time, Joe. What about coming on more often any how, and did you manage to hear the YRZ calling you on that frequency? I hope the QRM did not spoil it.

4RU has been removing his Tx and gear from the front room to the shack which has been built on level of house to save climbing hill to old location. Golf balls being so expensive, why not come on the air occasionally and let us hear how to hole out in one? 4LR now v.f.o. controlled and could be heard after 12 midnight calling South Africa—hope you make it! Back on the low power of 9 watts. 4XD heard from new QTH in Hermit Park working the VK3 boys! Do you sigh for the old days spent in VK3 land now that we have a hot spell? 4DR missing from the band as is also 4GF.

4JE and family are holidaying in Brisbane. 4RW heard arguing with 4FW about which way the South Africans were coming through at 3 p.m. one Sunday—long or short path—any answers? Both were using beams. (Maybe I can help out Bob, I worked 13 of 'em with my beam pointed south and that was the way they had their beams pointed, so I guess they were coming via the short path; just the same, I personally wouldn't care to swim the distance. —Sub-Ed.)

### MARYBOROUGH ZONE (By VK4GH)

4SE has settled in and is operating on 7 and 14 Mc. Reports that he misses his peanuts for breakfast. The local gang tried to find him a QTH on the fringe of the town, but Syd wound up near 4AL. 4AI building 14 Mc. converter and 50 Mc. rig. 4BG also on 50 Mc. gear and has re-built three element beam for 6 mX. Ron extended his beam pole for 66 ft. vertical and it worked well while it lasted, for two weeks, after which the pole broke. 4AI and 4BG haunting 14 Mc. as usual.

4GH re-building rig. Having seaside holidays without portable gear. 4KG going back into the R.A.A.F. Arch 4CB worked his 100th country on phone. Only has to get the cards now.

### CLARE'S CORNER

Congratulations to 4FE on being elected the new Federal Councillor. Arthur should be a worthy representative at the next Federal Convention to be held in Sydney. Heard 4VJ back on the air after a short spell in hospital. Sorry to hear of your illness, and hope you are OK again. 4RT would like to get hold of a really good crystal set to replace the H.R.O. as the number of knobs on the front panel gets really confusing at times. Have not heard 4FN on lately. 4TT is again on the air from his new QTH; Tom has re-built and is now running the full 100 watts to a pair of 807s. 4RU and 4IN are heard quite often during evenings looking for local contacts. 4CI is at present holidaying in N.S.W. and operating portable VK2.

4WD has a simple method of suppressing both side-bands by not switching on the modulator, but very difficult to copy. Bill, 4YA is back again after a short holiday in Victoria. Bill sent quite a lot of time at Castlemaine with 3VD and from all accounts a good time was had by all.

— . . . —

## SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for January was held in the clubrooms to the representative gathering that we have become so accustomed to, in fact we take the large crowd so much for granted that I feel that we should attend a meeting of one or other of our kindred organisations, and then we might realise that we are very fortunate in having such a roll-up. The guest speaker for the

evening was Clarrie Castle (5KL) and his subject was "Radio Control of Model Aeroplanes." This lecture broke new ground for quite a lot of those present because whilst many of us have read a good deal on the subject, few have had any practical experience. Clarrie tackled the subject in a workmanlike and illustrative manner by bringing along a working model and fully describing its construction, and also the many heartbreaking failures that he experienced before the job was a success. His talk undoubtedly created interest among the members present as was evidenced during question time, and it was also apparent that Clarrie was intensely proud of his model, not as a model alone, but principally as a problem that Amateur Radio had "licked." He delivered the talk in a very chatty and informal manner and the more that I hear this type of lecture, the more I am convinced that it is the best manner of approach to adopt with a gathering such as ours with its variety of vocations and standards of technical knowledge. Nice work Clarrie. The vote of thanks was given by Reg 5QR who in his remarks said that he had personally seen the model perform at various times and could vouch for the time and patience that had gone into its construction. The response to the vote of thanks clearly indicated the success of the lecture.

The principal business for the evening was the proposed increase in the annual subscription, and strangely enough no member spoke against the increase, and quite a number spoke for it, apparently realising that with the increased cost of everything these days, the increase was inevitable. Quite a number, however, spoke suggesting ways and means of cutting unnecessary expense down to a minimum, and all these suggestions will be given careful consideration by Council throughout the coming financial year. Federal Executive came in for its share of criticism, from a financial angle, but as I am apparently only permitted to mention F.E. when praised, I therefore can say no more regarding criticism.

Among the visitors were the following, Messrs. Friddle, Garton, Thomas, Drage, and Pfeiffer, and so all these gentlemen are welcome again, you are more than welcome. Reg 5RR gave the meeting a brief resume of all that has so far been done in connection with our exhibit in the coming Royal Adelaide Exhibition, and also asked that all members give some thought to the preparation of a skeleton staff roster, to be in attendance at the exhibit each night. Frank

Received 100 p.c. O.K. except name and report... WELL!!!

(That's probably all he told you anyway)

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## TASMANIA

The main item of interest to report on activities during January was the very successful field day which was held on Sunday, 20th. Transmitter party on this occasion was TDA, VKX and VKZ, with TDA being the only last-minute member. Location was at Howrah, the Tx's being concealed in thick scrub, short of the beach. TDA was the only one who used were 3.5 and 144 Mc. "Joe" was the easy winner of the hunt, locating the Tx within 42 minutes from commencement of operation, while TDA was the runner-up, taking 37 minutes after TBJ's winning burst. Social activities were organised by Burney Watson who arranged for a treat of beer and biscuits for all kiddies in attendance. A "guess the frequency" competition of a coil and condenser was held and won by Alan Adams, the frequency being 1.4 Mc. Guesses of between 23 and 110 Mc. were made by various members; believe TBJ was 55 Mc. out in his calculations, much to Joe's dismay. A null-dipole competition for the ladies was held which caused much amusement. Judging from comments made, the next field day will most probably be held after the annual general meeting on a larger scale and trust more members will participate.

For the benefit of members who have purchased the TR1143 v.h.f. rig, a lecture on the conversion of them to 144 Mc. will be made by TDA at the AGM on Monday, 27th. TDA received, this unit of Bob's, performs remarkably well and his signal can usually be heard any evening on this band. It seems the general opinion is that the Hams in the 144 and 288 Mc. which is very encouraging in the fact of our need to use all available bands. A party of 12 members of TDA had been planning to go to the top of Mt. Wellington on 3rd February in an attempt to make contact with the north and north-west of the State which we trust proved successful.

Elimination of b.c.i. which has retarded activity by TKA has now been successfully overcome so it seems Kew will be pounding the airwaves with their 7MHz. TKA also troubled with similar complaint, while TRM has intentions of a new type aerial for the 7MHz. TKA has been suffering from a restriction of activity by TNC who mainly works c.w. on 20 mc. A short trip to Devonport caused the absence of TGA from our last meeting. TGA was finally settled in the new home at Sandy Bay. Participants in the National Field Day Contest from the south only numbered 12. TGA was using a 7MHz. TGA, TBSR, operating again from Penna. Lack of interest is attributable to the short duration of this contest, although it was the longest of the year and the old times of operating will be available once again.

A temporary loss to VK1 is the absence of TJB who has moved on to Japan for a dislocation. TJB's absence has been taken as a keen interest in Institute affairs and was a prime mover in the organisation of the emergency work during the last few years. Before intentions are to operate on 20 mc. soon as time permits and knowing Jack this won't be long. Quite a lot of activity has been going on in the 7MHz. TGA has kept Jack fairly quiet during the last few months and it is the thoughts of all members of this Division that before long TGA will be back in the familiar call again on the Amateur bands.

Northern visitor here for a day or so was TDB; owing to restriction of times, he was not able to visit any members during his stay. Noticed Johnny Grace frequenting radio supply houses recently purchasing quantity of radio equipment. TDB is a former licence holder. TDB are the main cause for discussion with TAL since his recent trip to Beckeno. No news from TLD for quite a long time. TDB are about as about that fishing away and having a natter once in a while.

Main business for the February meeting was discussed and the AGM was held on the 27th. The Annual General Meeting to be held on 1st March, concluding with a talk by Mr. Ken Adams, will be held before long. Radio Terminal, which was appreciated by all in attendance. A vote of thanks was passed for the lecture and the meeting concluded at 1000 hours.

## NORTHERN TASMANIAN ZONE

Congratulations have been pouring in to T.L.Z. from parts over his magnificent 4 mV work when 50 Mc. opened up. Yes, Col. "knocked 'em off in a row." VK2, VK3, VK4, VK5, VK6, VK7, VK8, VK9, VK10, VK11, VK12, VK13, VK14, VK15, VK16, VK17, VK18, VK19, VK20, VK21, VK22, VK23, VK24, VK25, VK26, VK27, VK28, VK29, VK30, VK31, VK32, VK33, VK34, VK35, VK36, VK37, VK38, VK39, VK40, VK41, VK42, VK43, VK44, VK45, VK46, VK47, VK48, VK49, VK50, VK51, VK52, VK53, VK54, VK55, VK56, VK57, VK58, VK59, VK60, VK61, VK62, VK63, VK64, VK65, VK66, VK67, VK68, VK69, VK70, VK71, VK72, VK73, VK74, VK75, VK76, VK77, VK78, VK79, VK80, VK81, VK82, VK83, VK84, VK85, VK86, VK87, VK88, VK89, VK90, VK91, VK92, VK93, VK94, VK95, VK96, VK97, VK98, VK99, VK100. Col. Now T.L.Z. is out for 144 Mc. DX and a 12 element beam now graces the skyline in Knight Street, Launceston.

Another who is becoming beam conscious is zone president TRK who is contemplating a 3 element on 20 mc to raise that elusive zone

needed for W.A.Z. Ray, who has been spring-cleaning the shack, managed to put the works together and is again active on c.w.

Zone secretary TAM has been holidaying, so missed our February meeting. A visitor for a few hours was TCF from Queensland. TAA, who is now living in Launceston, can be heard on 7 Mc. TCL has returned to 7 Mc. after a long absence. TBR, TDB, TTE and THY are not very active at present because of house-building or too much work.

TGM is in the throes of constructing a 100 watt 144 Mc. Tx, is the meantime, TGM has been very active on 7 Mc. phone despite poor conditions. From TLM comes advice that a new Tx is taking shape and should be ready soon. TGM is present on the way to G-land and may have reached there by the time these notes appear.

For our February meeting night TXW brought along a low-powered phone Tx for portable work on 80 and 40 m. At our meeting a warm welcome was extended to new Associate Chas Kiltman.

Finally don't forget that the March meeting is the Annual Meeting, so roll up in force. The meeting will be in the Trades Hall since the old meeting room in the King's Hall Chambers is no longer available.

## CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

18 Nimmo St. Essendon, W.5. Vic.

Editor "A.R.", Dear Sir,

Having been in receiver design for some years, both commercially and as an Amateur, I read with interest the notes at the foot of page 10, February, A.R.

I would like to raise some points. I realise that destructive criticism is always very easy, but I feel that the remedy suggested by your contributor is rather severe generalisation and tends to dodge what may be the main issue.

Firstly what do we understand by "sensitivity"? There are many quite different meanings of this is on a signal-to-noise ratio basis. All commercial specifications adopt this method and compare the receiver's sensitivity to the final output power at which this ratio is obtained; e.g., "2 uv. for 10 db signal/noise ratio at 50 mv. output" would be typical.

I submit that the term "all-round sensitive, the receiver was unduly noisy," is a contradiction in terms.

The fact that in this particular receiver the noise from the 2nd mixer was extensive leads one to wonder whether some other fault is not present. If so, there is no more fundamental defect in the design.

It is admitted that altering the 2nd mixer to a triode system might reduce the noise generated by it, but so will many other expedients of varying degrees of inelegance. I think, however, that at those frequencies one should not be seeking to eliminate noise at that stage but rather to accept it and to make the most of the other advantages of the 6K8 in the conventional connection.

With circuits such as the 6K8 it can be shown that providing there is a voltage gain of about 10 times between the signal source and the 6K8 grid, the noise generated by the 6K8 can be neglected compared with the total noise voltage at its own grid.

The assumption is that the first or only valve before the 6K8 is a noise voltage referred to its own grid, of about 1 uv. This should be the case with a modern r.f. pentode with reasonable first circuit amplification.

Very non-studious waveform of the 6K8 oscillator would possibly upset this picture and would be due to excessive feedback in this section.

In the design of a double superhet I would say that one should aim for a signal of 20 uv. at the 6K8 mixer grid, and a noise level of 2 uv. even assuming 1 uv. at the aerial terminals, as one would have presumably at least two stages before this point.

A suggested layout might be: r.f. 1st mixer, high I.f. amp., 2nd mixer, which should produce a great enough signal at the 2nd mixer grid to make its noise completely negligible. The receiver sensitivity would then depend as always, on:

1. The performance of the r.f. stage and its associated noise circuitry.
2. The noise generated by the first mixer (same arguments as already set for second mixer apply here).
3. The overall bandwidth of the receiver (not here under discussion).

Do not let us confuse gain with sensitivity.

—E. H. RANTT, VK3NR.

10 Victoria Ave., Rose Park, S.A.

Editor "A.R.", Sir,

In the VK5 monthly notes for February, I wrote a paragraph which opened with "Federal Executive" and I based it on a pedestal by VK5 members together with Ned Kelly, three card tricksters, and thimble and pea experts. I was not aware of the fact that for this elevation, together with pungent comment on their lack of financial equilibrium. Federal Executive, and I humbly suggest, in order that the red pencil be used through the offending paragraph and sent a letter to the VK5 Division voicing their annoyance. I have no quarrel with this as I do not think the second that it would be permitted to see the light of day in the magazine, and it had achieved its object in getting under the skin of F.E., which was, after all, the only reason it was written.

However, quite a number of VK5 members, who were the instigators of the offending paragraph, have approached me and are suggesting that I have failed in my duty by refusing to write a suitable paragraph when requested. I would therefore, Mr. Editor, appreciate some explanation, however small, from you as to why the paragraph referred to was deleted from the VK5 magazine. I would like to follow this letter in the magazine, then all the gentlemen who have been pointing the finger of scorn at me are convinced as to my motives and desire to carry out their instructions, even if it means criticising such an august body as F.E.

In closing I would like to say that it is my personal opinion that the essential difference between F.E. and an ostrich, is the fact that an ostrich cannot manufacture its own sand.

—WARWICK W. PARSONS, VKKPS.

The paragraph in question was referred to F.E. (as do all others which fall into the same category) under an item which appears in the points, books, and notes.

The responsibilities of Federal Council concerning "A.R." shall include—

- (a) The preparation of Editorials.
- (b) All opinions concerning Federal W.I.A. matters and/or contacts with other bodies.
- (c) Any matters which might prejudice relations between the various Divisions or between Amateurs generally."

The matter from which the whole question arises, i.e., the purchase of office equipment, is covered in the minutes of the AGM, 1951, Convention. See "A.R." for June, 1951, page 1, item 9.—Editor.

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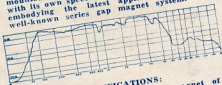
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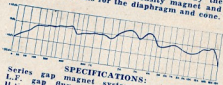


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